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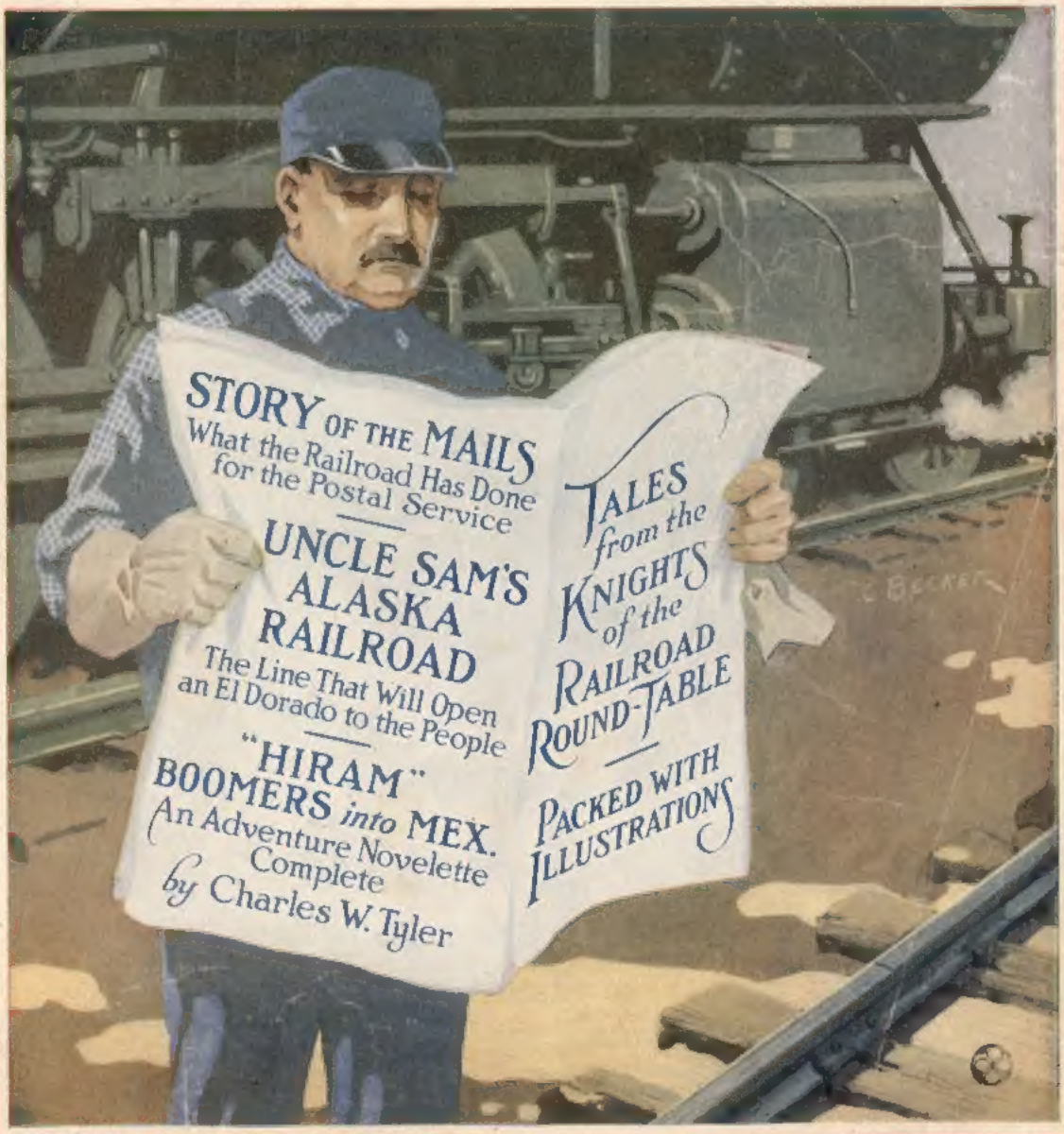
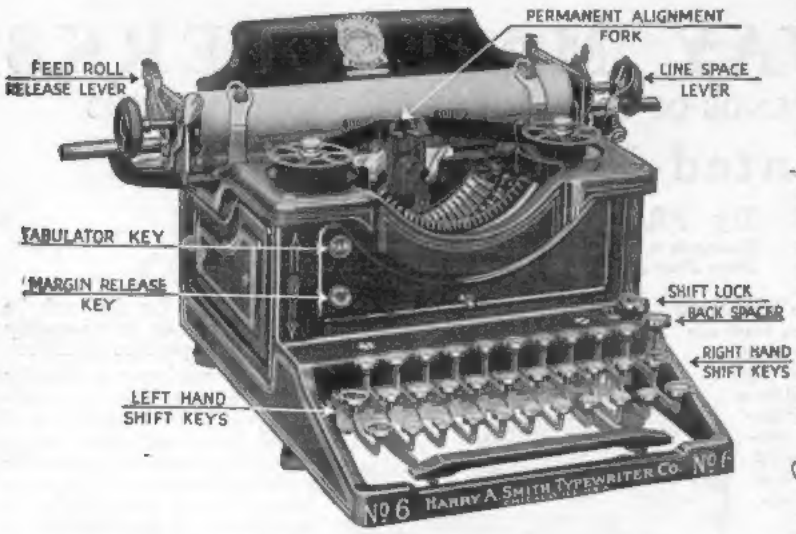
RAILROAD MAN'S MAGAZINE


STORY OF THE MAILS
What the Railroad Has Done for the Postal Service
UNCLE SAM'S ALASKA RAILROAD
The Line That Will Open an El Dorado to the People
"HIRAM" BOOMERS into MEX.
An Adventure Novelette Complete
by Charles W. Tyler
TALES from the KNIGHTS of the RAILROAD ROUND-TABLE
PACKED WITH ILLUSTRATIONS

HELMAR
TURKISH CIGARETTES
Quality Superb
HELMAR
TURKISH CIGARETTES
10¢
The Mildest tobacco for cigarettes is Turkish.
The Best tobacco for cigarettes is Turkish.
Don't pay 10 Cents for anybody's cigarette until you've tried "Helmar," a fascinating, elevating, gentleman's smoke.
Makers of the Highest Grade Turkish and Egyptian Cigarettes in the World



I want, through this advertisement, to establish as friendly business relations with you as I possibly can. I want you to realize also, that it is my earnest effort and intention to give you full honest value for every dollar that you spend with me. This is the only way I can succeed. My advertisement has appeared in this magazine continuously for more than four years.

I am building up my business on the foundation of good value and square dealings. I am saving thousands of satisfied customers thousands of dollars, by supplying, perfect—late style—visible writing—typewriters, at remarkably low prices.

All my transactions are handled throughout by personal correspondence. I assure you every courtesy and consideration in your dealings with me. Your order will have my prompt, careful, personal attention. I will be glad to do business with you.

Harry A Smith

TYPEWRITER SENSATION

Free TRIAL—Use As You Pay

Send me only $2.00 a month until the low total price of $34.15 is paid, and the machine is yours

This is absolutely the most generous typewriter offer ever made. Do not rent a machine when you can pay $2.00 a month and own one. Think of it—Buying a $100.00 machine for $34.15. Cash price, $32.30. Never before has anything like this been attempted.

Standard Visible SMITH Model No. 6

Perfect machines, Standard Size, Keyboard of Standard Universal arrangement, writing 84 characters—universally used in teaching the touch system. **The entire line of writing completely visible at all times,** has the tabulator, the back spacer; in fact, every late style feature and modern operating convenience. Comes to you with everything complete, tools, cover, operating book and instructions, ribbon, practice paper—nothing extra to buy. **You cannot imagine the perfection of this beautiful typewriter until you have seen it.** I have a thousand of these perfect latest style Model No. 6 typewriters at this bargain price, and each purchaser fortunate enough to secure one of these beautiful machines must try it out in home or office for five days before deciding to buy. I will send it to you F. O. B. Chicago for five days' free trial. It will sell itself, but if you are not satisfied that this is the greatest typewriter bargain you ever saw, you can return it at my expense. You won't want to return it after you try it—**you cannot equal this wonderful value anywhere.**

You Take No Risk—Put In Your Order *Now*

When the typewriter arrives deposit with the express agent $6.15 and take the machine for five days' trial. If you are convinced that it is the best typewriter you ever saw, keep it and send me $2.00 a month until my bargain price of $34.15 is paid. If you don't want it, return it to the express agent, receive your $6.15 and return the machine to me. I will pay the return express charges. **This machine is guaranteed just as if you paid $100.00 for it.** It is standard. Thousands and thousands of people own and use these typewriters and find them the best ever manufactured.

The supply at this price is very limited, the price will probably be raised when my next advertisement appears, so don't delay. Fill in the coupon today—mail to me—the typewriter will be shipped promptly. There is no red tape. I employ no solicitors—no collectors—no chattel mortgage. It is simply understood that I retain title to the machine until the full $34.15 is paid. **You cannot lose. It is the greatest typewriter opportunity you will ever have. Do not send me one cent. Get the coupon in the mails today—sure.**

Harry A. Smith 318-231 N. Fifth Ave. Chicago

H. A. SMITH
Room 318-231 N. Fifth Ave.
CHICAGO, ILL.

Ship me a No. 6 Smith F. O. B. Chicago, as described in this advertisement. I will pay you the $28.00 balance of the SPECIAL $34.15 purchase price, at the rate of $2.00 per month. The title to remain in you until fully paid for. It is understood that I have five days in which to examine and try the typewriter. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee for one year.

Name.....

Address.....

.....

RAILWAY MAIL CLERKS

AND THOUSANDS OF OTHER CIVIL SERVICE WORKERS

Wanted by Government

By FRANK O. EVERITT

Formerly with U. S. Civil Service Commission
Now Principal I. C. S. School of Civil Service.

I HAVE just returned from Washington. I went to find out at first hand exactly how war conditions are affecting the Civil Service arm of the Government. I knew there would be a greatly increased demand for employees, but I was scarcely prepared for what I found. Every department is in a state of the greatest activity and every department is short of help.

The demand for Civil Service employees has never been so great or so urgent. The Government's war activities have made it imperative that thousands of men and women be added to the present force to carry on its work.

The Civil Service Commission is holding special examinations, many of them at night, something it has never done before, to accommodate those who wish to apply for positions. At the same time it is sending out calls to local examining points all over the country in an endeavor to get in touch with those who are eligible or desire to take positions with the Government.

Unquestionably, the present extraordinary demand for workers provides the greatest opportunity that ever has been offered to secure a position with the Government at exceptionally good pay. The demand is so great for employees that almost anyone, by preparing for the examination for the work he wishes to take up, can be reasonably sure of securing a position quickly.

Government employees work under ideal conditions. Generous salaries, regular and certain pay, liberal vacations, short hours, splendid working conditions, congenial surroundings and advancement on merit make service in this branch of the Government a most desirable life.

Not only does it offer you an exceptional opportunity for a career, but it enables you to serve your country patriotically and effectively. Of course, just at this time, if you are of military age and physically fit, you want to join the Army or Navy, but if that privilege be denied you, a Civil Service position places you in that great army of Government workers behind the fighting forces, without which they would be helpless.

The Government pays from 10 to 15 per cent. higher wages than outside employers pay for similar work. Entrance salaries run from $840 to $1800 a year, and promotions, especially in times like these, are rapid.

A Government position is not at all hard to obtain. The requirements are simple. Ability to pass a common-sense examination is the one important thing, and a brief course of preparation gives you that.

Fortunately, everything has now been made easy for you. Through the International Correspondence Schools you can secure the very training that you need to pass the examination for the particular position you wish. You can get this preparation right in your own home, at a cost so low it will surprise you.

And this you may depend upon: the preparation you get through the I. C. S. will be a training such as you cannot get elsewhere. The work of the I. C. S. Civil Service School is based on years of experience in training men for Government positions. Immediately you tell us what kind of position you are interested in, we know exactly what training you need to prepare you quickly and efficiently for your examination. Thousands of men and women are now enjoying well-paid Government positions as a result of having let us give them the preparation they needed.

If you want a position with the Government, by all means get in touch with us *right now* and let us tell you just what is necessary in order for you to obtain that position quickly.

Don't lose a minute. Take the first step right now. Mark on this coupon the position or work you are most interested in and get it off to us at once. It will not obligate you in the least, but it will bring you the full story of the wonderful opportunities in the Government service. Mark and mail the coupon now.

TEAR OUT HERE

INTERNATIONAL CORRESPONDENCE SCHOOLS
Box 5948, SCRANTON, PA.

Explain, without obligating me, how I can qualify for the position, or in the subject, *before* which I mark X.

☐ CIVIL SERVICE	☐ TRAFFIC MANAGER
☐ CIVIL SERVICE CLERK	☐ Bookkeeper
☐ CIVIL SER. BOOKKEEPER	☐ R. R. Agency Accounting
☐ CIVIL SER. STENOGRAPHER	☐ R. R. Gen'l Office Acc'ting
☐ RAILWAY MAIL CLERK	☐ Stenographer and Typist
☐ POST OFFICE CLERK	☐ SALESMANSHIP
☐ MAIL CARRIER	☐ ADVERTISING
☐ LOCOMOTIVE ENGINEER	☐ MECHANICAL ENGINEER
☐ Locomotive Fireman	☐ Mechanical Draftsman
☐ Traveling Engineer	☐ Machine Shop Practice
☐ Traveling Fireman	☐ Boiler Maker or Designer
☐ Air Brake Inspector	☐ Stationary Engineer
☐ Air Brake Repairman	☐ Gas Engine Operating
☐ Round House Foreman	☐ ELECTRICAL ENGINEER
☐ Trainmen and Carmen	☐ Electric Wiring
☐ Railway Conductor	☐ Electric Railways
☐ CIVIL ENGINEER	☐ Telegraph Engineer
☐ Surveying and Mapping	☐ Telephone Work
☐ R. R. Constructing	☐ MINE FOREMAN OR ENG'R
☐ Bridge Engineer	☐ CHEMIST
☐ ARCHITECT	☐ AUTOMOBILE OPERATING
☐ Architectural Draftsman	☐ Auto Repairing
☐ Contractor and Builder	☐ Good English
☐ Structural Engineer	☐ AGRICULTURE
☐ Concrete Builder	☐ Poultry Raising

☐ Spanish ☐ German ☐ French ☐ Italian

Name_____

Occupation & Employer_____

Street and No._____

City_____ State_____

F6

RAILROAD MAN'S MAGAZINE

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THE FRANK A. MUNSEY COMPANY, 8 West Fortieth Street, New York, and Temple House, Temple Avenue, E. C., London

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Send the coupon below and find out about the opportunities in the profession of Signal Engineering. *Big salaries are being paid* —$125 to $300 a month is an ordinary salary for the man who has the proper training. You can get just this kind of training right in your own home—during your spare time. **Men are needed.** Send the coupon for the book that tells you all about it. You owe it to yourself to find out about the opportunities that are offered to you. Send the coupon today—now.

Be a Signal Engineer!

Be the man who gets the fat pay envelope. The profession of Signal Engineering is only in its infancy. There are thousands of miles of block signals to be installed. Signal Engineers, supervisors, inspectors and foremen are required to superintend this installation. Hundreds of maintainers and battery men are needed to maintain the systems already in use.

Two Big Outfits FREE
Complete Signal Engineer's Outfit and Complete Draftsman's Outfit given away absolutely free to each student.

Your duties may take you from coast to coast. Railroad men are always in a fortunate position to travel and see the world because free transportation is liberally awarded. You can accept a position where you will be located steadily at one place, if you prefer—the position of authority—the high place and the fat pay envelope may be yours. Send the coupon today for the free Signal Book.

Men Are Needed

The profession of Signal Engineering is calling to ambitious men. Our ranks are not overcrowded. **There are opportunities—golden ones, awaiting the men who answer the call.** Block signal systems are no longer in the experimental stage. All over the country they are being installed. Some States have legislated to compel the railroads to install systems immediately. In our profession you will have the chance you have been looking for. **We are calling you.** Send coupon today for big Free Signal Book and full details.

Send Coupon for Big New Book

Put your name and address on the coupon or on a letter or a postcard now, and send it to us. Absolutely no obligations of any kind. We will send you our big new Book absolutely free, and prepaid. Read about this fascinating profession. Read about the opportunities that await you. The book is free. Send the coupon for it now—it's the first step toward the realization of your ambition. Send your name and address at once.

Department of Signaling
Room 8109, 1810 Wilson Ave., Ravenswood Station, Chicago

Department of Signaling
Room 8109, 1810 Wilson Ave.
Ravenswood Station, Chicago

Gentlemen:—Please send me absolutely free and prepaid your big new book on Signal Engineering. Also full particulars about your great special free outfit offer. It is distinctly understood that I assume no obligations of any kind.

Name.....

Address.....

Age..... *Occupation*.....

Classified Advertising

The Purpose of this Department

is to put the reader in touch immediately with the newest needfuls for the home, office, farm, or person; to offer, or seek, an unusual business opportunity, or to suggest a service that may be performed satisfactorily through correspondence. It will pay a housewife or business man equally well to read these advertisements carefully.

Classified Advertising Rates in The Munsey Magazines

	Line Rate.	
Munsey's Magazine	$1.00	Special Combination Line Rate $4.64 Less 3% cash discount.
The Argosy	1.30	
Railroad Man's Magazine	.80	
All-Story Weekly	.75	
	$4.85	

Sept. Railroad Man's Magazine Forms Close July 7th.

"A New Force in Business" is a booklet that tells how to advertise successfully in the Classified Departments of the Munsey Magazines. Mailed anywhere on request.

AGENTS & SALESMEN WANTED

SALESMAN MANAGERS WANTED FOR LOCAL CONTROL OF THE DeLUXE PORTABLE LAMP. "Turns anyway, clamps anyway" — you must have a small capital, open an office, handle agents and see the trade on new plan devised by us; the DeLuxe Portable Lamp sells in every electrically lighted house, in offices, factories, among salesmen, actors, tourists, etc.; it's an opportunity for a man who wants no limit on what he can earn, and who can give the highest references. Address Sales Development Company, 299 Madison Avenue, New York.

$50 A WEEK UP. ALL THE FREE CLOTHES YOU WANT TO WEAR simply to advertise us. Write today for self-measuring blanks, style chart, big book of samples, etc. Send no money. A postal card brings all. We pay expressage on everything. American Woolen Mills Co., Dept. 703, Chicago.

AGENTS: Decalcomania Transfer Initials And Flag Emblems. You apply them on automobiles while they wait. Cost 2c each: profit $1.33 on $1.50 job; free particulars. Auto Monogram Supply Co., Dept. 14, Niagara Bldg., Newark, N. J.

WE START YOU IN BUSINESS, FURNISHING EVERYTHING; men and women, $30.00 to $200.00 weekly operating our "New System Specialty Candy Factories," home or small room anywhere. No canvassing. Opportunity lifetime. Booklet free. Ragsdale Co., Drawer 92, East Orange, N. J.

NEWEST MONEY MAKER! 11 PIECE TOILET SET selling like blazes at $1 with $1 carving set free. Tremendous Hit! Randall sold 30 one day. Success sure. H. Pierce Company, 906 Lake Street, Chicago.

AGENTS—ESTABLISH YOURSELF in a permanent well-paying business. Automobile owners everywhere have been looking for this article. **Newman's Nu-Mend** positively seals punctures automatically as fast as they occur. Guaranteed. Large profits. Write for agency. Newman Mfg. Co. (Estab. 1882), 717 Sycamore Street, Cincinnati, Ohio.

FREE SAMPLE WITH PARTICULARS. NO SPLASHING WATER STRAINERS. Easy seller. Returns big. Experience unnecessary. A. D. Union Filter Co., New York.

1917 SPRING SUIT FREE—A WONDERFUL AMAZING OFFER—If you are a live wide-awake man, we want you to get one of our elegant spring suits, made to your measure, absolutely **Free.** You can make $25.00 extra every week and get your own clothes without cost. Write us at once and get details of this "Startling Offer." Spencer Mead Company, Dept. 1160, Chicago.

AGENTS WANTED—Agents Make 500 Per Cent Profit selling our Auto Monograms and Initials, Window Sign Letters, Changeable Signs, and Show Cards. 1000 Varieties. Enormous Demand. Sullivan Co., 1125 Van Buren Street, Chicago, Ill.

RAILROAD MEN ADD MANY DOLLARS TO THEIR SALARIES during spare time selling Transparent Handled Novelty Knives with name, address, photo, lodge emblems, etc., showing under the handle. Lightning sellers. We show you how. Also want agents who can give full time. Big profits guaranteed. Novelty Cutlery Co., 111 Bar Street, Canton, Ohio.

Armstrong Earned $67.50 First Day selling our new business necessity. Retails $5.00 to $30.00. Agents profit 150%. Buyer satisfied or money back. No competition. Exclusive territory. Free sample. Sayers Co., 411 Wainwright, St. Louis, Mo.

$2500.00 THIS SUMMER. "GOODRINK" MEANS THIS to Live Wires. Over $300,000,000 spent for Soft Drinks in the U. S. A. during 1916. Big season starting. Exclusive territory. Write now. P. E. Rodolph, 208 N. 5th Avenue, Chicago, Ill.

AGENTS—500% PROFIT. FREE SAMPLE GOLD AND Silver Sign Letters for store fronts and office windows. Anyone can put on. Big demand everywhere. Write today for liberal offer to agents. Metallic Letter Co., 410 N. Clark St., Chicago.

DO YOU WANT AGENTS AND SALESMEN TO SELL YOUR MERCHANDISE? Men and women who are educated in personal salesmanship and know the house-to-house, office, and store canvassing proposition. These advertisers are getting them year in and year out, and there are thousands more for you among the 5,000,000 readers of The Munsey Magazines. Our Classified Service Bureau will gladly show you how to use this section most profitably and at the least cost. Write to-day to the Classified Manager, the Railroad Man's Magazine, 8 West Fortieth Street, New York.

AGENTS & SALESMEN WANTED

AGENTS. Grab This Quick. Take orders for "Kantleak" Raincoats. I paid Eli Bridge $88.95 for one week's spare time. Cooper making $300 monthly. Wonderful values. A dandy coat for $3.98. Other styles to $15. Four average orders a day gives you $2100 a year profit and a Free automobile. No delivering or collecting. Complete sample outfit all Free. Big season just starting. Hurry. Comer Mfg. Co., 125 Owen Street, Dayton, Ohio.

WOULD YOU LIKE TO WEAR A BEAUTIFUL NEW SUIT, made to your own measure Free, and make $35 to $50 every week? You can be the best dressed man in your town and earn a lot of extra money if you write at once for our beautiful samples and wonderful offer. The Progress Tailoring Co., Dept. 262, Chicago.

AGENTS—BIG SUMMER SELLER. Something new—Concentrated Soft Drinks. Just add water. Delicious drinks in a jiffy. Popular for the home, picnics, parties, socials, etc. Small packages; carry in pocket. Enormous demand. Agents making $5 to $12 a day. Outfit free to workers. Just a postal today. E. M. Feltman, 3410 3rd Street, Cincinnati, Ohio.

AGENTS—SOFT DRINKS IN POWDER. Just add cold water; ready instantly, delicious, healthful, every one wants them. Sells 30 glasses 25c. Trial package 10c postpaid. Chas. Morrissey Co., R-1417-20 Madison Street, Chicago.

AGENTS—500% Profit—Samples Free. Gold and Silver Sign Letters for office windows and store fronts; experience unnecessary. Write today for particulars. Inter-State Sign Co., 2438 No. Halsted Street, Chicago, Ill.

AGENTS—Rush Postal for Free Sample "Spik & Span." Wonderful new washing tablet. Washes clothes spotless, without rubbing. Tremendous seller. 200% profit. Free samples to boost sales. E. D. Newberry, 202 Peoria, Chicago.

SWELL SUIT FREE FOR 2 HOURS' WORK. Show it to your friends and make $5.00 an hour in your spare time. We show how. Costs nothing to try. Write quick for measure blank and our handy sample outfit. All Free. We deliver everything free. Look into this. Paragon Tailoring Co., Dept. 703, Chicago.

"WASHWHITE" CLEANS CLOTHES Without Rubbing and without injury to the finest fabric. Our sales plan assures repeat business and big profits. Free samples; exclusive territory. The Nacma Co., Dept. L-13, 20 W. Lake, Chicago.

OF INTEREST TO WOMEN

GIVEN TO ANY WOMAN. Beautiful One Hundred Piece Gold Decorated Dinner Set for distributing (not selling) only five dozen packages Diamond Dust Soap Powder free among friends. No money or experience needed. New Method Company, 732-738 No. Franklin Street, Chicago.

BUSINESS OPPORTUNITIES

OPPORTUNITY SEEKER—STOP HERE. Build a profitable business of your own. **Knowledge is Power** will show you how. Send a postal now for details and money back guarantee. Gardner Bros., Dept. B, 49 St. Nicholas Terrace, New York.

RAILROAD OPPORTUNITY! President and Owner Short Line Steam Railroad in Illinois near Chicago, planning extension, seeks partner, active or inactive, with $5,000 to $7,000 to perfect plans to extend; handle own money; short link now handling good traffic; liberal interest in it and in extension offered; also vice-presidency and directorship; passes over other lines in future; income on investment at once and the big money to be made later by selling. In replying give details about yourself, etc. Address, Railway, 320 Crescent Place, Chicago.

LEARN TO ORGANIZE AND PROMOTE Stock Companies. Greatest money-making business. Field about you unlimited. Now is the time. Our booklet will tell you how. Price $1. National Security Co., 1401 Douglas Ave., Nashville, Tenn.

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AVIATION. SEND FOR FREE And Prepaid Literature on Aviation. Courses in Practical Aeronautics and Flying. Learn how you may prepare yourself for this fascinating and big paying profession at home. Special Limited Offer to all who write immediately. American School of Aviation, Dept. 1097, 451 South Dearborn Street, Chicago.

PE

HELP WANTED

FOREMEN, SHOPMEN, AND OFFICEMEN WANTED to work spare time as special representative of large well known mail order house, selling Watches, Diamonds and Jewelry on Credit. Liberal commissions and exclusive sales rights granted. No investment or deposit required for outfit or samples. Write at once for details. Address S. D. Miller, Dept. 16, Agency Division, Miller Building, Detroit, Mich.

MAN OR WOMAN TO TRAVEL FOR OLD-ESTABLISHED FIRM. No canvassing; $1170 first year, payable weekly, pursuant to Contract. Expenses advanced. N. G. Nichols, Philadelphia, Pa., Pepper Building.

GOVERNMENT JOBS FOR AMERICAN CITIZENS pay $900 to $1800 yearly. Prepare for coming "exams" under Former U. S. Civil Service Sec'y-Examiner. Book Free. Patterson Civil Service School, Box 1302, Rochester, N. Y.

BE A DETECTIVE—Travel and See the World. Earn from $25.00 to $100.00 per week and expenses. Write for free booklet. National School of Detectives, 586 Depew Building, 5th Avenue, New York.

WORK FOR UNCLE SAM. He is the best employer. Big pay, nice work, easy hours, long vacations, rapid advance. Thousands of jobs open this year. I will help you get one. Write for my big Free book, DY 31, today. Earl Hopkins, Washington, D. C.

BE AN AUTOMOBILE EXPERT IN SIX WEEKS. Earn $75 to $250 a month. Our big book tells you how. Babe's Automobile Training School, 519 E. 11th Street, Kansas City, Mo.

BE A DETECTIVE—EARN FROM $150.00 TO $300.00 PER MONTH. Travel over the world. Write C. T. Ludwig, 212 Westover Building, Kansas City, Mo.

WRITE NEWS ITEMS AND SHORT STORIES FOR PAY in spare time. Copyright book and plans free. Press Reporting Syndicate, 435, St. Louis, Mo.

NO STRIKE; 8 HOUR DAY. MEN EVERYWHERE. Firemen, Brakemen, Baggagemen, $120. Colored Porters, Experience unnecessary. 836 Railway Bureau, E. St. Louis, Illinois.

WANTED IMMEDIATELY—Men—Women 18 or over. U. S. Government jobs. War means many vacancies. $75 to $150 month. Write immediately for list positions now obtainable. Franklin Institute, Dept. C-2, Rochester, N. Y.

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FROM OUR DESCRIPTIVE LIST OF CAREFULLY Selected Books covering every phase of the Railroad, Telegraph, and Wireless industries, we can fill your needs. Send for free catalogue. Locomotive Charts and large size Blueprints of any telegraph circuit, including any type repeater, 25c each. Railroad Book Supply Co., 3 Jackson St., New Rochelle, N. Y.

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LEARN TELEGRAPHY AT HOME IN HALF USUAL TIME. Trifling cost. Omnigraph Automatic Transmitter sends you Railroad or Wireless messages, at any speed, just as expert operator would. Morse and Continental Codes. Adopted by U. S. Gov't. Catalog free. Omnigraph Co., 39-W Cortlandt St., N. Y.

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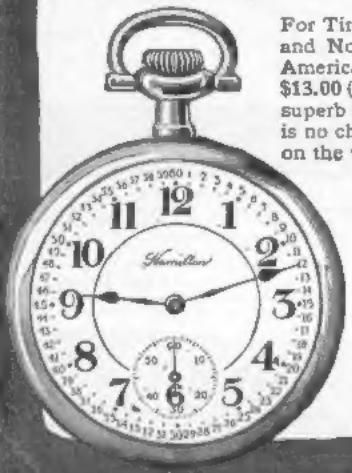

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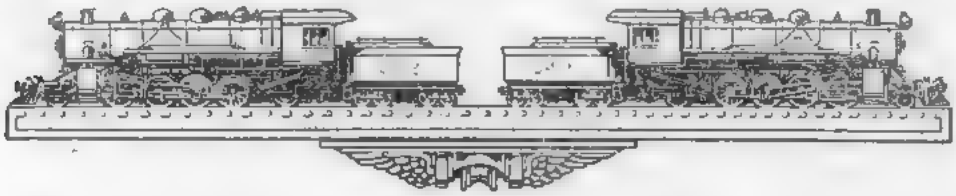


STORY OF THE UNITED STATES MAILS.

Uncle Sam Is the Railroads' Second Largest Single Customer, Doing an Annual Business of about $60,000,000.

TRAFFIC EXCEEDS 499,011,047 TRACK MILES.

History of the Postal Service Shows a Struggle through Three Centuries to the Present Dazzling Development—Parcel Post Has Enormously Swollen Volume—Government Now Trying New Plan of Paying Railroads on Space Basis—What the Steam Carrier Has Contributed to the Nation's Postal Utility.

BY SAMUEL H. PAINE.

AS the author states in this article, it is a good thing to know the details concerning the vast mail traffic that the government is carrying on through the instrumentality of the railroads. It is to be wondered if many railroad men, who handle mail matter every day they work, have any idea of the vast proportions to which the business has grown or of the complexity incident to the handling of approximately twenty-two billion separate pieces of mail through United States Post Offices every year. You will get this information in this article, which also has a very timely interest for railroad men because it tells how the government is at present trying out a new plan of paying the railroads for the services rendered by them. Hitherto the railroads have been compensated on a scale computed from the weight of the mails carried, together with rental for mail-cars of specified classes. By the new plan described in Mr. Paine's article, the carriers are now to be paid according to the space which the

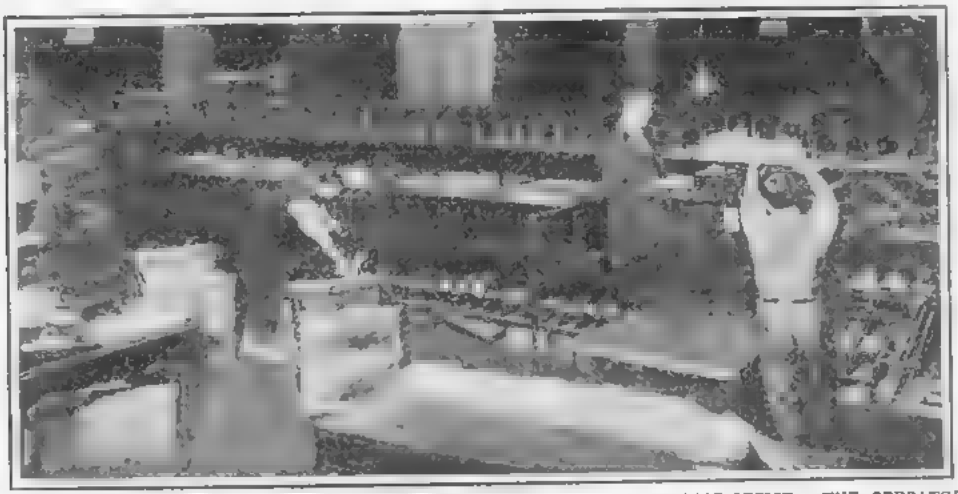
BY MEANS OF THE MAIL-SORTING MACHINE NOW IN USE IN ABOUT 200 POST-OFFICES, TWO MEN CAN NOW DO THE WORK THAT ONCE REQUIRED THREE HUNDRED

mails take up. This is a change of moment to every one identified either with the distribution of the mails or with the agency which transports them.—THE EDITOR.

THE United States Government is the second largest individual customer of the railroads

The revenues obtained from the carriage of mail matter, though less than those obtained from the express companies, form an important feature of railroad prosperity. Due to the advent of the parcel-post the volume of postal material is increasing by leaps and bounds.

On November 1, last year, there was put into operation, in conformity to a law passed by Congress, a mail-carrying sys-



ONE OF THE NEW SORTING MACHINES IN OPERATION AT THE CHICAGO POST-OFFICE THE OPERATOR OF THIS INGENIOUS DEVICE SIMPLY MANIPULATES A KEYBOARD THAT RESEMBLES A TYPEWRITER

tem which has revolutionized the scheme of railroad pay. Heretofore mail matter carried by the railroads had been paid for according to its weight and also rental of certain types of mail-cars; now it is on a basis of car-space.

Until this new plan has been thoroughly tested there is no telling whether it will fully meet the long-standing complaint of the railroads that they have not fairly been compensated by the government. The change has called forth a radically different method of handling mail-matter, and special departments have been created on many railroad lines to deal with the subject.

If for no other reason the railroads of this country would be rated as among the greatest benefactors of the public because of the high development they have attained in handling the mammoth mail traffic.

World-Beating Mail-Handlers.

In no other country is it done so reliably, conscientiously, speedily, or over such a vast and populous territory.

Railroad men know, in a general way, that the postal and railroad services are interdependent and perform a vital service. However, the actual workings of the system are perhaps not as well understood as they should be, in order that a full appreciation may be obtained of the traffic which has become a part of the flesh and blood of the national life, functioning trade, spreading intelligence, closely knitting the lives and works of the people, however far apart they may dwell.

So commonplace, because of habit and custom, has this utility become that it is regarded more as a right than a privilege—something like the air we breathe, water we drink or the sun's supply of heat and light, accepted as a matter of course.

And yet behind it lies a human activity with which for tense and sober responsibility, ingenuity and skill, as well as tireless day-and-night toiling, there are few departments of endeavor that can compare.

The mail service that is so freely enjoyed to-day did not just happen. It has evolved from a disorganized, blindly staggering little public service and has reached out with the advancing arms of the railroads and even beyond them into the rural byways, until it offers its priceless gifts to all of the hundred millions of citizens on almost perfect equality.

It is a good thing to know about this great democratic enterprise and the auxiliary part the railroads play in it. It makes the railroad man's heart beat a little faster through pride of achievement. It makes the colors of the flag a bit more vivid to him—and justly so.

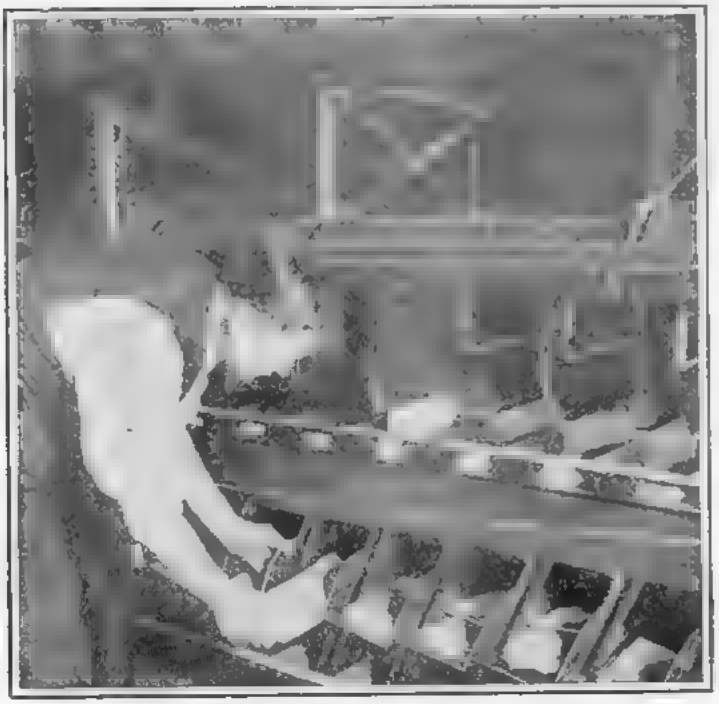
Evolved through Three Centuries.

The act of collecting and delivering postal matter seems a simple and obvious social contrivance, yet it has slowly evolved through three centuries of social progress. The musty records show that there was a "Master of Postes" in the days of Henry VIII.; but his duties were obscure, and it is not known what, if any, mail service Merrie England enjoyed at that time.

The same documents record that James I. proclaimed in his reign, that "for the convenience of English merchants engaged in foreign trade, letters might be sent to a central office and be conveyed thence by Crown Messengers."

A proclamation of Charles I., in 1635, may be taken as the real foundation of the present elaborate international postal system, for he directed his "postmaster of England for foreign parts to settle a running post or two, to run night and day between Edinburgh, and London, to go thither and come back again in six days, and take with them all such letters as shall be directed to any post town in or near that road."

The first record of any mail service on this continent is in the colony reports, dated May, 1677, it being a transcript of a petition signed by several Boston merchants, that "Mr. John Hayward, a scrivener, be appointed to take in and



MAIL IS NOW DISTRIBUTED MECHANICALLY INTO THE VARIOUS BOXES FOR ITS PRIMARY SEPARATION ONLY TWO MEN ARE REQUIRED TO WORK THE NEW MACHINE

convey letters according to their direction."

William Penn issued orders for the establishment of a post-office at Philadelphia, and was granted authority to hire horses to carry mails from that city to New Castle, Delaware, in July, 1683, the service being weekly.

Benjamin Franklin was postmaster of Philadelphia in 1737 and later the postmaster-general of London appointed him postmaster-general for America.

At that time, of course, all mail was carried either by pedestrains or horsemen. The records show that on the riding route between Philadelphia and Newport, Virginia, the round trip required twenty-four days, a lonesome and ill-paid commercial adventure.

Mail service by rider was regularly established between New York and Philadelphia in 1754, ninety miles between the two cities being covered every Monday, Wednesday and Friday, except in winter, when, owing to bad roads, Miss Quaker was indeed fortunate if she received a billet from gallant young Knickerbocker once a week. Quite a contrast this, with the present half hourly service between these two great cities, letters posted this morning reaching their destination this evening.

At this same time there was mail service fortnightly between Philadelphia and Boston.

Stage Carriers.

The first regular stage-coach mail service in the colonies was established in 1756, making the trip between New York and Philadelphia in three days. Later, a coach line was regularly operated between New York and Boston, covering the distance in thirteen days. This was the origin of stage coaching and the forerunner of the present-day railroad mail service.

It is noteworthy that at this time newspapers were carried free by the government mail, and usually the editors of the struggling little "news-letters," or newspapers, of those twilight days, were the local postmasters.

The theory that the mails are a legitimate and highly important part of the educational system and should foster and encourage all publications as a social feature, has prevailed to this day, accounting for the astounding fact that, at last official reports, about 67 per cent of the postal business has to do with second-class matter, from which the proportion of revenue is only a little more than

five per cent. The only free matter now is by the "franking" privilege granted to Congressmen and government officials for official business.

The first postmaster-general under the Continental Congress, succeeding Benjamin Franklin, was Ebenezer Hazard. He seems to have had a sad time of it. His chief work was to transmit letters to the rapidly shifting Continental Army.

Hazard's Job Was Hazardous.

We read that he put up a terrific "kick" against the way he was being treated. The government did not provide him with even a horse; and with "one servant" he was obliged to tag the army about on foot subject, as he himself wrote, to "extraordinary expense, difficulty and fatigues."

After the inauguration of General Washington as President, the first public enterprise undertaken was a perfected organization of the mail service, "that the people might derive the greatest benefit from an institution of their own." All private competition was ordered stopped.

At that time the postmaster-general had one clerk. There were 75 post-offices and 1,875 miles of post-roads in the United States. The total expense of operating the mails for one year was $32,140.

From 1789 to 1836 the records show a slow advance, much popular complaint, terrific loss of life of mail carriers due to Indian depredations, hardships and discouragements, the traffic being conducted by means of riders, stage-coaches, four-horse post-coaches, sulkies, packets and steamboats.

The population had grown to over 13,000,000 persons, widely scattered.

Advent of Railroads.

Enter the railroad the dream of mankind coming true and offering to the postal department an advantage which has developed into a feature of every man's life.

In 1835 Postmaster-General Kendall quaintly "suggested" that the Baltimore and Ohio might be asked to set apart a portion of its baggage cars for the use of government mails, a "strong lock to be attached, to which only the postmasters of Baltimore and Washington should have keys." This was done and was the first apartment mail car.

The earliest railroad trains carried mail, which was put aboard in canvas bags, but there was complaint that the railroad men, busy with their work, neglected the mail and often even forgot to drop it off at way stations. Then, also, it was trifled with by passengers and others—the advance guard of the hobo family probably—and editors complained that subscribers were missing newspapers.

Those were the days of the postal contractor, an individual who was awarded the privilege of carrying the mails over specified routes. So great was the clamor against the negligence of these contractors that the newspapers demanded that the government handle the mails exclusively.

Birth of Rail Service.

Then when the howdy-do over the negligence of railroad men came along the editors proposed that the government build and own its own mail-cars. This brilliant and daring suggestion was followed by one to the effect that, in order to insure speedy delivery of mail, the government own both its own mail-cars and locomotives and that there be Federal legislation giving these United States mail-trains right of way over any tracks at all times.

Of course this did not prevail.

Instead, the railroads offered mail apartments in box-cars and on baggage-cars. Railroad men loaded and unloaded the mails. A letter addressed at Washington for New York was carried to Baltimore, where the postmaster assorted it and put it aboard a train bound for Philadelphia. There the operation was repeated, and eventually the letter would arrive at its destination.

The railroad postal clerk and postal car had not been thought of then—these simple and seemingly obvious develop-

TWENTY-FIVE THOUSAND LETTERS ARE STAMPED IN AN HOUR BY THIS MARVELOUS CANCELING MACHINE, SEVEN OF WHICH ARE NOW IN USE AT THE NEW YORK POST-OFFICE

ments had all to be first thought of and then worked out. To W. A. Davis, a clerk of the St. Joseph, Missouri, post office, belongs the honor of having first thought of assorting letters and papers while they were in transit.

In 1861 Davis was engaged at the St Joseph, Missouri, post-office in distributing through mail carried over the Hannibal and St. Joseph line, and therefore was able to watch the methods by which the overland mail was made up. These methods, he thought, could be improved on; so he wrote a letter to Washington officials delaring that it was a woful waste of time to permit mails to be relayed from town to town while clerks might just as well ride the trains and assort the mails *en route*. For this valuable suggestion Davis was promoted.

The first traveling post-office ran over the Iowa Division of the Chicago and North Western from Chicago to Clinton, Iowa, in 1864. The system was next installed on the line from New York to Washington. The records bear ample and eloquent testimony as to the difficulty which the government encountered in those first days in finding men competent to fill the exacting and complicated service demanded of a railway mail-clerk.

The growth of the railway mail service has been coincident with the development of the railroads. Never has the mail taken a back seat.

Not only with the growth of population has the volume of mail matter increased, but it has also multiplied according to the extension of education and commercial activities. The greater the craving for knowledge, the more time wage-earners and their families have had for writing letters and reading newspapers and periodicals, and the more surplus wealth they have had for the purchase of postage and literature, the more largely the postal service has been employed. Thus mail traffic becomes an index of culture and commercial activity.

Exclusive Mail Specials in 1874.

Colonel George S. Bang, general railway-mail superintendent, in 1874 first discussed the idea of establishing fast and exclusive mail-trains between New York and Chicago. He said that the trip might be made in twenty-four hours. The result was that the Lake Shore and the New York Central lines constructed and operated the finest mail-trains that had ever been seen in the world, and a marvelous service was inaugurated.

At about the same time the Pennsylvania Railroad followed suite. These excellent services ran for just ten months. Then Congress reduced the already inadequate railroad pay and the service ceased, not to be resumed until there was such a public clamor that a compromise was arranged.

From these small beginnings the stupendous railroad mail-service has grown. In 1915 there were 1,411 whole cars equipped as post-offices running across the land and 4,412 more containing postal apartments.

Most of these cars are run singly, as a part of a passenger train. When the weight of 50,000 pounds is reached for a single mail, fast mail-trains are made up and operated as exclusive postal service.

There are no finer cars being built for any purpose than the mail-cars of the present. Of steel, mounted on the highest quality of trucks, lighted, heated, and ventilated as the best of passenger coaches and appointed with the most modern equipment, they are usually sixty feet in length and of fine appearance.

Every effort is made to insure the safety of the mails. The government specifies the kind of cars and equipment to be used to get maximum results in accurate and speedy mail assortment. This year all wooden postal cars will have been eliminated from the service, according to the law passed in June, 1913.

Efficient Assortment.

The work of the postal clerks on mail-cars by 1911 had become enormous and unwieldly and a change in organization was established, calling for terminal post-offices at the railroad stations in some sixty of the great cities. Much mail that had been sorted on the trains went to these post-offices, and this has resulted in decreasing both the car-space used and the number of traveling clerks employed.

The main idea back of this move was to employ in the sorting work machinery which greately facilitates the operation and which cannot be used in the cramped space of mail-cars. It also cut down much rehandling. In 1915 there were eighty-eight terminal railway post-offices, where 2,419 clerks were employed.

These terminals in the large cities are marvels of efficiency. In the Pennsylvania Terminal in New York City seven hundred clerks work night and day assorting the mails which, when pouched, are trans-

PNEUMATIC TUBES ARE NOW USED FOR PRACTICALLY ALL FIRST-CLASS MATTER IN MOST OF THE NEW YORK POST-OFFICES. THESE ARE OPERATED BY COMPRESSED AIR AND ARE SET TO CARRY A TUBE EVERY TWELVE SECONDS

ferred to waiting mail-cars on endless chain conveyors, and dumped into the very door of the car where the waiting messenger clerks seize it and start the reassortment according to the routes to be covered.

There are four classes of mail-matter, as follows: First, letters, postal cards, sealed packages, all written matter, the rate being two cents an ounce, or one cent in the instance of postal cards; second, newspapers, magazines, periodicals issued at intervals not exceeding three months, the rate being one cent for four ounces when mailed by the general public and one cent a pound when mailed by publishers; third, circular matter weighing less than four pounds, excluding books, the rate being one cent for two ounces; fourth, parcel-post matter, composing all mailable merchandise, including books, factory and farm products and miscellaneous printed matter.

Perhaps in the whole realm of railroad service there is no more exacting and straining work called for in the performance of clerical duty than that rendered by the nimble-fingered and sharp-witted railway mail-clerks.

What Mail-Clerks Do.

Those highly trained men, running on the heavy trunk-line routes, seem to possess a sixth sense, a sort of weird ability to comprehend geographical location in relation to time, that is amazing to the average onlooker.

They are mental acrobats, juggling in their minds thousands of facts and figures and with such system as to be almost mechanical about it.

Yet it cannot be mere psychological mechanics, by reason of the fact that the order is always subject to change, and if these men were working their minds like computing-machines they would not be able to take on the new orders and handle them with such a marvelous minimum of error. No, they are using their brains; and a man without a highly developed mental equipment cannot serve Uncle Sam in the railroad mail service.

An actor may commit to memory the difficult rôles of a Shakespearian drama and word it twice daily before critical audiences and consider it a feat. A lawyer, after much study, may commit to memory a thousand vital facts which he may be able to enunciate without reference during his day at court.

There are men with prodigious memo-

AN ELABORATE SYSTEM OF BELT CONVEYERS CARRIES OUTGOING MAIL THROUGH A SERIES OF SEPARATIONS UNTIL THE FINAL DISTRIBUTION POINT IS REACHED. HERE THE SACKS ARE FILLED AND TAKEN OFF IN TRUCKS TO THE TRAINS.

Photo by courtesy of Scientific American

ries in the rate departments of passenger and freight offices of the railroads, some of them carrying an astonishing amount of numeral information in their minds. Many a clergyman possesses the faculty of memorizing a forty-minute sermon for Sunday morning and another for Sunday evening services.

But of all the men who are called upon to "carry in their heads" a veritable haystack of official details and use them in their daily work, with the whole mass subject to almost instant change, there is probably no class equally responsible with the "boys" of the R. M. S.

Some Aged "Boys."

They call themselves "boys," but they are not young, if the average age of the entire force is computed. The United States government, which exacts so much from them, pays them $900 to $1,500 a year wages, with $1,800 a year for the clerks in charge, but fails to provide any pension system; and some of the "boys" are men in the seventies and even the eighties.

For obvious reasons names are omitted from this article, but there are well-known instances of old men running over lines in the Eastern section of this country who are so withered by time and the hard service of the mail-car as to be well justified in being granted a respite from toil on the last lap of the life trip, but who keep on at the work by sheer force of economic necessity. Yet the younger men boast that these fathers of the mail-car are as agile and faithful as any of the newcomers.

Before a man may take up this branch of the service he must pass a rigorous civil-service examination. This is the first weeding-out process and it brings to the service only men who are physically and mentally equipped to undertake the work.

However, before the applicant is admitted he must work for three months preparing for the duties of a substitute clerk. He must commit to memory an abridged edition of all of the postal laws of the country, getting not only the letter of the important pieces of regulating legislation, but the spirit of them.

The examination on this phase of the trade is very severe.

The man must understand the obligation contained in the oath of office to which he subscribed on entering the service. He must agree that he will not do any other work for pay.

He must follow the rules in regard to his political conduct. His private life and his personal habits must be consistent with the rules.

He must know such details as the limit of weight that may be placed in a sack, the kind of a pouch to be used in certain instances, what precautionary measures he shall observe in the interest of the addressee of postal matter, and scores of other affairs relating to the service.

After a clerk has been able to write an intelligent reply to this examination paper he may think himself qualified to enter the President's cabinet as postmaster-general, but he finds that his labors have just begun.

How They Start.

He is assigned to substitute work on an "easy run." Perhaps the case that he will assort mail into has only 200 or 300 post-offices. He must be able to read quickly the handwriting that appears on envelopes and when the writing is so poor that the average human being would be tempted to toss it from the car, the substitute must be able to make a sure guess.

In committing to memory his separation case—as complicated as a printer's type case—he must be careful not to confuse towns with similar names. Many a clerk of noted proficiency has tripped on this score because he has relied upon a mechanical action.

For instance, he might be running over a route with towns named: Stonington, Stonetown, Stonyville, Stonebrook, Rocky Point, Stony Point and Blackstone. If one were to attempt to fix these places in the mind by a mechanical process he

would be sure to meet his fate and commit the unpardonable crime of misplacing letters, and carrying them by their destination, or putting them off at the wrong station.

So, according to the rules, a man must give to each piece of mail that comes into his hands a separate and distinct mental operation. He must read the address, comprehend it fully, and place it in its correct rack position.

Learning the separation case is a difficult "stunt," requiring time and concentration. The substitute must know the details of a given "trip" to perfection and then when he has become absolutely unerring—one hundred per cent accurate—he must learn another trip and still another.

The latter two he may never be called upon to "work," but if the regular man on the route should for any reason be off duty there is an understudy or two fully prepared to accept the assignment.

WHEN THE MAIL IS LOADED FROM THE AUTOMOBILE TRUCKS ONTO THE PLATFORM OF THE NEW YORK POST-OFFICE IT IS DISTRIBUTED ACCORDING TO TRAINS (OTHER DISTRIBUTIONS HAVING ALREADY BEEN MADE AT THE BRANCH OFFICES). THEN THE SACKS ARE THROWN DOWN THESE CHUTES WHICH LEAD TO THE TRAINS

Frequent Examinations.

Clerks who have for years been running over the same limited route and who have come to know every mile-post and person receiving mail on it, by rote, are called upon to take an examination as to their proficiency at least once a year. But the clerks on the great trunk-lines operating between populous cities, where the mail-car carries a crew of several men, must pass at least three examinations each year.

An impression of what this examination means may be best gained from an explanation of the duties of a trunk-line clerk. Assume that he is operating between New York and Washington.

He must know a separation case that accommodates mail, not only for the cities and towns on the line and the villages that connect by street-car and jitney bus with post-offices on the main line, but he must also assort mail to accommodate the city carriers, and he must also arrange mail destined beyond his terminals.

At the same time this clerk must carry in his mind a definite sense of train-time, and so arrange his assortment that the mail for the town fifty miles from New York will have been segregated from the general mass and ready for city delivery by the time his car reaches that depot.

When the train reaches Philadelphia the traveling mail-clerks will have made a separation in such fashion that the minimum amount of work will fall upon the city carriers.

The mail addressed to large hotels, great mail-order houses, extensive manufacturing concerns and other institutions receiving great quantities of postal matter, will have been separated and tied up and sacked for the nearest city delivery sub-post-office. The sack containing the mail for a suburb of Philadlephia will be specially marked and will go directly from the car to that suburb.

By the time the train has reached Washington the mail will have been separated so that very little work remains to be done by the local post-office. All of the great Federal departments will have had their mail assorted *en route* and the city sub-stations will receive packages of mail from the car, all ready to go into the hands of the local carriers.

Have to Know Cities.

When these mail-clerks return to New York they carry a great variety of mail, destined not only to the metropolis but to northern points and to all parts of the world reached by steamers sailing from the port of New York. Therefore the clerk must carry in his mind, when he is making the separation, not only a vast amount of geographical knowledge, but he must even assort the mail so as to make the best time over the various routes out of New York.

If there are two mail-steamers leaving on the same day for Liverpool the clerks will know that one may be due on the other side a day in advance of the other and hence he will assort the first-class letter mail to catch the fast boat. At the same time he will assort the mail for New York city for sub-stations and even by numbers of streets, with as intimate knowledge of the local numbering system as the city carrier on the route.

The heavy mail for clubs, hotels, hospitals, colleges, office buildings, newspapers, big retail houses, etc., will all be delivered in packages, made up in transit by car-clerks.

In the city of New York alone there are 1,248 important items that the mail clerk must keep constantly in mind. These include all of the sub-stations and the territory covered by them, as well as all of the various large interests requiring individual separation and data bearing upon methods of handling postal matter in the metropolis.

When one multiplies by eight this amount of mental baggage which a clerk must carry for one city—for there are eight centers of population on the route between New York and Washington—and then multiply again by all of the ramified and interlocking services, ranging from the jitney bus to the European mails, the genius of the railroad mail-clerk becomes very apparent.

Of course, with such a vast amount of mail to handle on the short runs, the men become skilled in the separation work and their fingers fly about their cases like those of an expert stenographer over her keyboard.

Record Sorting Feats.

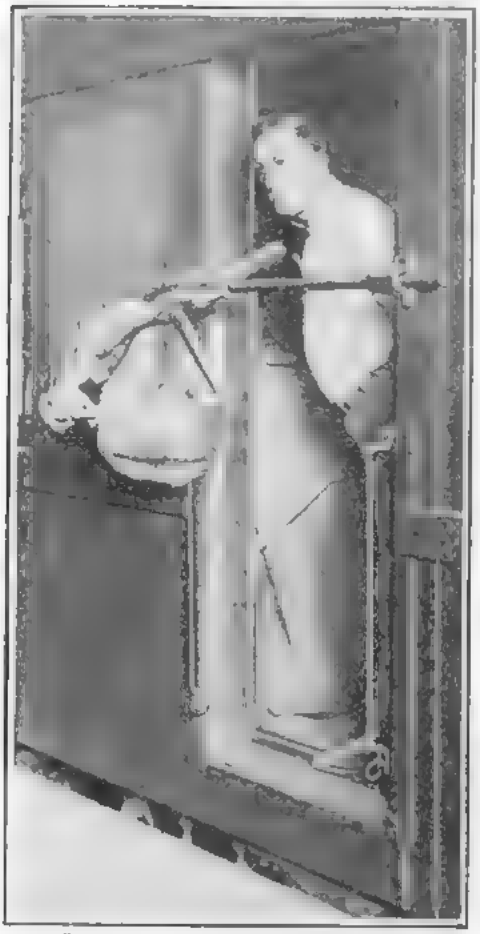
One young clerk, a blue-eyed, sandy-haired Irishman operating out of New York, was recently called upon to take an examination at the main post-office. His regular run is between New York and Washington.

He was given a separation case identical with those used on a run in Virginia. There were 1,115 post-offices marked in this rack. He was called upon to assort mail for every one of these post-offices. This young whirlwind finished the job in twenty minutes, or at the rate of 56 letters per minute, and he did not make an error.

He was then called upon to assort for 820 post-offices in the State of New Jersey, on exactly the same principle as he would employ in car-work. He did the job, without error, at the rate of 48 letters per minute.

The same clerk established a record by assorting for 719 post-offices in a section of North Carolina at the rate of 65 letters a minute, without error.

He is a genius, and as such exceeds the



THE "CATCHER" SNATCHES THE POUCH FROM A FIXED CRANE ALONG THE TRACK AT THE SAME TIME THROWING OFF THE INCOMING MAIL

average of the mail clerks, but there are many consistent performers who do nearly as well every day in their cars. The average performance on examination is about 25 letters per minute.

Must "Bat 1,000."

A mail-clerk is supposed to register 100 per cent perfect in examination. That is to say, he is supposed to "know the job" perfectly, but if he makes one or two errors through some mechanical fault, such as would be occasioned by letters sticking together or by misreading some extremely difficult scrawl, he may be pardoned.

In the service there obtains a system of merits and demerits. Everything is subject to written report to headquarters, and men failing in their duties are demoted, while those who register high service are promoted.

How the Merit System Works.

A man might be a crack worker for ten years and reach a job worth $1,500 a year, and then through a series of errors

FROM THE MAILING-PLATFORM OF THE PENNSYLVANIA RAILROAD TERMINAL POST-OFFICE THIS CHUTE BRINGS THE SACKS DIRECTLY TO THE RAILWAY MAIL CAR

lose his standing and fall back to the rank of a $900 clerk, or even be dismissed from the service.

Men who supervise postal divisions over several States carry a tremendous fund of information. One general clerk operating out of New York actually computed that he had committed to memory in excess of 15,000 given facts in regard to the business of assorting mails in five Eastern and Southern States.

If you were to ask him this question: "On No. 65 run, out of New York, shall a letter addressed to Hickville be dropped off at Trenton or Philadelphia, to make the best delivery time?" he would have the answer at the tip of his tongue almost before you completed your query.

He would say: "At Trenton, because there is a jitney-bus delivery at 8.50, whereas the street-car from Philadelphia does not reach Hickville until nine o'clock."

High Averages.

The examination average established among the 2,100 railway mail-clerks operating out of New York last year, was 98.60 per cent, which speaks eloquently in praise of these men who handle mail for six States—and, indeed, in a manner of speaking, for all the world.

A feature of the life of the railway mail-clerk that must not be lost sight of is that his training is of no practical use to him if he should for any reason lose his position in the service of Uncle Sam. No other concern would need the knowledge, for the United States has no rival in the mail business.

Hence the proficiency a man attains must serve him as a mail-clerk without a definite prospect of elevation beyond the limit of a clerk in charge. And he must always maintain his standard of efficiency or lose the entire capital of time and study invested.

Most of the men are happily disposed and confess to a fascination to "the game." Certainly there is the exhilaration of speedy and difficult work involved, and it is flavored with the railroad sauce that thousands of men in this country enjoy and would not part with for much higher wages in other lines of endeavor.

The exact relations between the government and the railroads is perhaps not so well known as it should be. What the railroads do is to provide and equip the necessary postal cars and haul them, together with other cars used for the mails, as directed by the postal authorities.

Railroads Load and Unload Mails.

The loading of mail into cars is done by employees of the railroads. Cars are also unloaded by the company's men unless in charge of a government messenger. The railroads must transfer mail from car to car or between stations. The railroad company must carry the mail between the station and the post-office, except in large cities.

At way stations the limit of distance the railroad men must carry the mail from station to post-office is eighty rods. Space must be provided in city stations for mail-cars, where they may lie for hours, if necessary, while clerks are starting the assortment.

Mails must be taken on such trains as the government directs. No matter what the conditions are, the railroad must not leave any mail behind. If an unusual quantity of mail-matter appears for transportation it is up to the railroad to handle it, never mind what else may be neglected.

These rigid rules are laid down in the contracts, and violations may have serious results.

The New Mail-Pay Law.

At the present time the railroad mail service is in the throes of an upheaval, due to the law passed by the Sixty-Fourth Congress July 28, 1916, which became effective on the first day of last November, changing the entire system of railway mail-pay.

The new basis of payment by the government for mail traffic is according to the car-space used. Heretofore the payment

had been based upon weight, as determined by weighings conducted every four years on each mail-route for a period of 105 days.

This old plan was never satisfactory to the railroads, and it has been a point of contention which has called forth nearly as much discussion as the query concerning the age of Ann. There has always been an increasing growth in the volume of mail, and the railroads have protested against quadrennial weighings mainly on the fact that in the latter part of the term they were compelled to carry much matter without compensation.

The new space system has long been advocated as a proper substitute, but there is still doubt whether it will prove practical and justly serve both railroad and government interests

I. C. C. Will Decide.

With this doubt in mind the new law is decidedly elastic and in the final analysis rests the case in the hands of the Interstate Commerce Commission, which both the railroads and Congress has recognized as a reliable authority to determine just rates.

Railroad men who have in the past considered the mail service to be a somewhat doubtful quantity as regards revenue, are eagerly watching the outcome the present experiment. Certain public officials have

IN THE RAILWAY MAIL-CAR FIRST AND SECOND-CLASS MATTER IS ROUTED BEFORE THE TRAIN LEAVES. THESE BOYS DEVELOP A PHENOMENAL SPEED IN THIS WORK AND RARELY MAKE AN ERROR

stoutly and for many years maintained that the railroads were being overpaid by the government. A Senate Committee in 1915 investigated the matter and found that the railroads were being underpaid at the rate of $3,000,000 a year.

The statistics of the Postal Department show that while mail revenues increased from $152,826,585 in 1905 to $287,248,165 in 1915, amounting to 88 per cent, railway pay increased only 32 per cent.

The report of the postmaster-general for the year ending June 30, 1916, shows the following items of expense: For transportation of mails on railroads, $52,829, 557.19; for railway mail service, $28,449,023.68 and for railway post-office car service, $3,688,677.14. Hence it appears that for the last year of record the government paid to the railroads for the transportation of mails, $84,967,258.01.

The railway mail service is made up of four classes: Full railway post-office car service, apartment railway post-office service, storage-car service and closed-pouch service.

The first class comprises entire cars sixty feet in length, while apartment cars provide rooms from fifteen to forty feet in length. Storage-cars are those which carry large consignments of mail matter between large terminals, without transit working. These are sixty feet in length, inside measurement. Closed mail-pouch service is the transporation of mails which are handled by railroad employees.

New Rates of Pay.

According to the new law the rates of payment for these four classes of matter are as follows:

For full railway mail-car service, not exceeding 21 cents for each mile of service, to which may be added by the postmaster-general a sum not exceeding $4.25 as a combined initial and terminal rate for each one-way trip of a 60-foot car

For apartment-cars not exceeding 11 cents for each mile of service by a 30-foot apartment-car, and 6 cents per mile by a 15-foot car. An additional sum not exceeding $2.75 as a combined initial and terminal rate may be granted for each one-way trip of 30-foot apartment-cars and $2 for 15-foot cars.

For storage cars, not exceeding 21 cents per mile, with an initial and terminal rate possible not exceeding $4 25 per trip.

For closed-pouch service, not exceeding 1½ cents for each mile when a 3-foot space unit is authorized, and 3 cents for each mile when a 7 foot unit is authorized. The combined initial and terminal rates of the latter two classes are 25 and 50 cents per one-way trip.

Railroads which were constructed in whole or in part by a land grant authorized by Congress, on condition that the mails should be transported at such price as Congress should direct, are to receive only 80 per cent of the compensation otherwise authorized, as stated above.

The initial and terminal rates cover expenses of loading and unloading mails, switching, lighting, heating and cleaning mail-cars and all other traffic expenses.

Good-By, Wooden Mail-Car!

The postmaster-general is authorized to make special contracts with the railroads where in his judgment the conditions warrant the application of higher rates to obtain higher service.

The government specifies just how cars shall be constructed and maintained and no pay is allowed for service in "any car which is not sound in material and construction and which is not equipped with sanitary drinking-water containers and toilet facilities, nor unless such car is regularly and thoroughly cleaned." No pay will be allowed for a wooden railway car, unless approved by the postal authorities, nor for any wooden postal car in any train between steel cars or between the engine and a steel car.

After July 1, 1917, the postmaster-general, under the law, must not allow to be operated for mail-carrying any full car not constructed of steel.

The railroads must provide all necessary facilities for carrying and handling mails, including station space for storage and distribution and for failure to comply

with the regulations the law states that they may be fined.

The postmaster-general, who has tremendous powers under the new law, decides upon what trains and in what manner the mails may be conveyed. He may make deductions from the pay of railroads because of reduced service, and may impose fines for service delinquencies.

Where service is not performed he may fine the railroad not exceeding three times the value of such service.

Second-Class Matter Goes by Freight.

The provisions of the law do not apply to mails conveyed under special arrangements with the railroads on freight-trains. This applies largely to second-class matter, which was crowded off fast trains by Postmaster-General Frank Hitchcock in his whirlwind efficiency campaign and is now transported by freight-trains. For this service the government pays rates not

This magazine travels to you by freight. In general, all printed matter except books is second class.

As the value of the space basis has long been questioned as a solution of the railroad mail-pay problem the new law empowers the Interstate Commerce Commission later to fix and determine, from time to time, the fair and reasonable rates for mail-carriage and finally decide whether the basis of compensation shall be by weight, space or another method.

Thus, at last, after more than half a century of contention between railroad officials and Congressmen as to a just method of pay, the matter finally filters to a commission that, at least, has the advantage of knowing railroad conditions and is therefore best able to render a wise decision.

Public Good the Aim.

The aim of the government has always been not to derive any profit from the mail service, but rather to administer the department in such a way as to contribute most generously to the educational, commercial and social needs of the public.

Until a few years ago there were even heavy postal deficits and no one seriously complained. However, an ambitious campaign to make the post-office department self-sustaining was then begun and it is still in operation along lines which are not altogether agreeable to all interests.

The railway mail-service, for instance, is often pinched closely by these economies, especially in the matter of sufficient clerks to perform the exacting duties of the department without unnatural strain. The periodical mail, crowded to freight-cars, suffers serious delay, in contravention of the original postal ideal of making educational matter easily and cheaply accessible to the people.

The report of Postmaster-General A. S. Burleson for the year ending June 30, 1916, shows receipts of $312,057,688.83, an increase of 8.63 per cent over 1915, with expenditures of $306,204,033.14, an increase of 2.56 per cent over the previous year, giving a profit of $5,853,655.69.

Advent of Parcel-Post.

The enormous bulge in the volume of mail matter that followed the inauguration of the parcel-post system, which became operative January 1, 1913, drawing from 12 to 15 per cent of the express business to the mails and initiating a brand-new traffic in farm bundles, has been handled by approximately the old postal force.

At the present time there are 297,000 postal employees, while when the parcel-post was authorized there were 287,000. Only 10,000 extra men not only to handle a billion packages added to the mail service annually but also the tremendously increased mail of all classes during the past four years! It is stupendous; and, what is more, the mail men of the country, patient plodders that they are, are silently groaning under it.

Parcel-post packages are handled along with all classes of mail. A quart of red raspberries, done up in a flimsy biscuit-box, wrapped with thread, and reeking with juice, takes its place in the mail-chutes with letters and parcels of value.

A BUSY CORNER IN THE POST-OFFICE "SUBWAY," WHERE MAIL FOR EXPRESS TRAINS COMES DOWN THROUGH A CHUTE TO A POINT 100 FEET BELOW THE STREET.

There is no system of segregation and the consequent confusion is often perplexing to the mail-clerks.

Practically the same number of railway postal-service clerks handle the mails to-day that did in 1913. The 10,000 additional men employed by the government have been placed as clerks in the city post-offices or as carriers. And it is upon the railway mail-service that the parcel-post has fallen with the heaviest blow.

The average weight of a parcel-post package is one pound and eleven ounces. Prior to the parcel-post four pounds was the weight limit of a package. Now it is fifty pounds for the first 150 miles from the mailing station and twenty pounds beyond.

The cost of sending four pounds under the old mail system was 64 cents; now it is 8 cents for the first 150 miles, 12 cents for 300 miles, 19 cents for 400 miles, and so on, through the zone system, to 48 cents for any distance over 1,800 miles.

Articles of merchandise of almost every description, including farm products, are admitted, provided they conform to the weight and size limits. For added postage, parcels may be sent C. O. D. or insured, and indemnity will be paid for loss or partial damage up to a specified amount.

It is declared that damage to parcels in transit has now been reduced to one-tenth of one per cent.

Staggering Figures.

The bulk of the parcel-post business is between cities and the country. It is in operation on 43,000 rural routes, serving 26,000,000 such patrons.

Recently it was estimated that the parcel-post was handling at the rate of 90,000,000 packages a month

It is believed that the total number of separate pieces of mail being handled annually by the postal department is approximately twenty-two billions. There are no official figure since 1913, but the total then was eighteen and a half billion pieces.

The second-class matter being annually

mailed is running at approximately one billion, two hundred million pounds.

In 1915 full railroad mail-cars ran 76,248,127 miles. Apartment-cars had a mileage of 153,034.

The total length of all postal railway routes, including those over which the mail was carried in closed pouches, was 228,827 miles and the total distance traveled by the mails was 499,011,047 miles.

The government paid out nearly $100,000,000 in 1915 for the transportation of domestic and foreign mails, exclusive of the rural free delivery and star routes. This was nearly one-third of the postal receipts of the year—$287,248,165.

The railroads received $59,576,288, or about 20 per cent of the government's total postal receipts, for carrying the mails and maintaining the post-office car-service.

There are now in the United States 55,779 separate post-offices; in the year 1789 there were 75 post-offices.

All for Two Cents.

When a letter bearing a two-cent stamp and addressed to a correspondent in San Francisco is dropped into one of the great New York mail hoppers a bewildering set of motions is started.

A mail collector on foot takes the letter from the street box to a central storage collection box in which other foot collectors deposit their mail.

Presently an automobile collector, on a regular circuit and on a definite schedule, takes the full bags from the storage collection box, leaving empty bags in their place, and proceeds to the central post-office.

There, by mechanical conveyer, the bags are transported from the platform to the facing tables. The New Yorker's letter, with thousands of others, is dumped on these tables and "faced"—that is, the address and stamp side are arranged face up, properly to be fed through a mechanical canceling device. This runs at the rate of five hundred letters per minute.

In a tray, over another mechanical conveyer, the letter then takes its way to what is called the "primary separation" cases. As this letter is going to San Francisco it is thrown into a box labeled "Western States." There are as many as fifty primary separation cases manned at one time in the large offices.

Final Separation.

Again mechanically conveyed, the letter reaches the final separation cases, where a much larger force of clerks give final assortment before the letters are despatched.

The Western States mail is tied up in packages for the several States or routes, with separate packages for the larger cities. Occasionally there are separations for great commercial institutions doing an enormous mail business.

If the New Yorker's letter chanced to be addressed to such a concern in San Francisco it might be done up by a New York clerk with other letters destined to the same address and never reassorted until it was carried out of the San Francisco post-office by the delivery postman.

As fast as the San Francisco box of each separation clerk in New York is filled the letters are taken out and tied in packages, each bearing a slip showing the despatching office, date, hour of mailing, and the name and number of the despatching clerk. If any letter other than for San Francisco is found in this package when it arrives at its destination the error is easily checked to the despatching clerk.

Sorted as to Subdivisions.

The San Francisco letters are now locked in a pouch and labeled direct to the destination city. Letters for smaller post-offices in California are tied up in packages labeled "California" and are distributed on the railway post-offices *en route*, running west of Chicago.

Postal clerks on mail-trains or railway post-offices entering large cities just prior or during delivery hours, must be familiar with the delivery systems of those cities in order that all letters may be distributed

THIS MAIL IS ALL ADDRESSED TO PERSONS IN GERMANY, AUSTRIA-HUNGARY, BULGARIA AND TURKEY, BUT UNCLE SAM THOUGHT HE'D BETTER HAVE A PEEK AT IT FIRST—JUST FOR SAFETY'S SAKE SO HE ORDERED IT TO THE DEAD-LETTER OFFICE TO BE READ SOME OF THESE SACKS HAVE BEEN LYING IN THE NEW YORK POST-OFFICE FOR TWO YEARS

so as to insure the promptest final delivery possible.

Thus a very large amount of mail entering a local post-office from the railway service is shaped for quick final despatch by carriers.

Undistributed packages of letters for a city, upon reaching the post-office, are mechanically conveyed to the city primary separation cases, where not only these letters but those mailed for local delivery receive their first city separation to station districts, prior to the final separation by other clerks to the various carrier routes

Has to Sort, Too.

The postman distributes his letters into his case according to streets and numbers and gathers them up from the case so that the first letter for delivery is on top of the package and the last letter for delivery on the bottom.

When one considers the number of human hands that will pick up a letter mailed from New York to San Francisco and the eyes—often mighty tired eyes—that will strain at the address, the spirit of humanity is moved at least to make that address legible. So if you can't write plainly, print the address in capitals

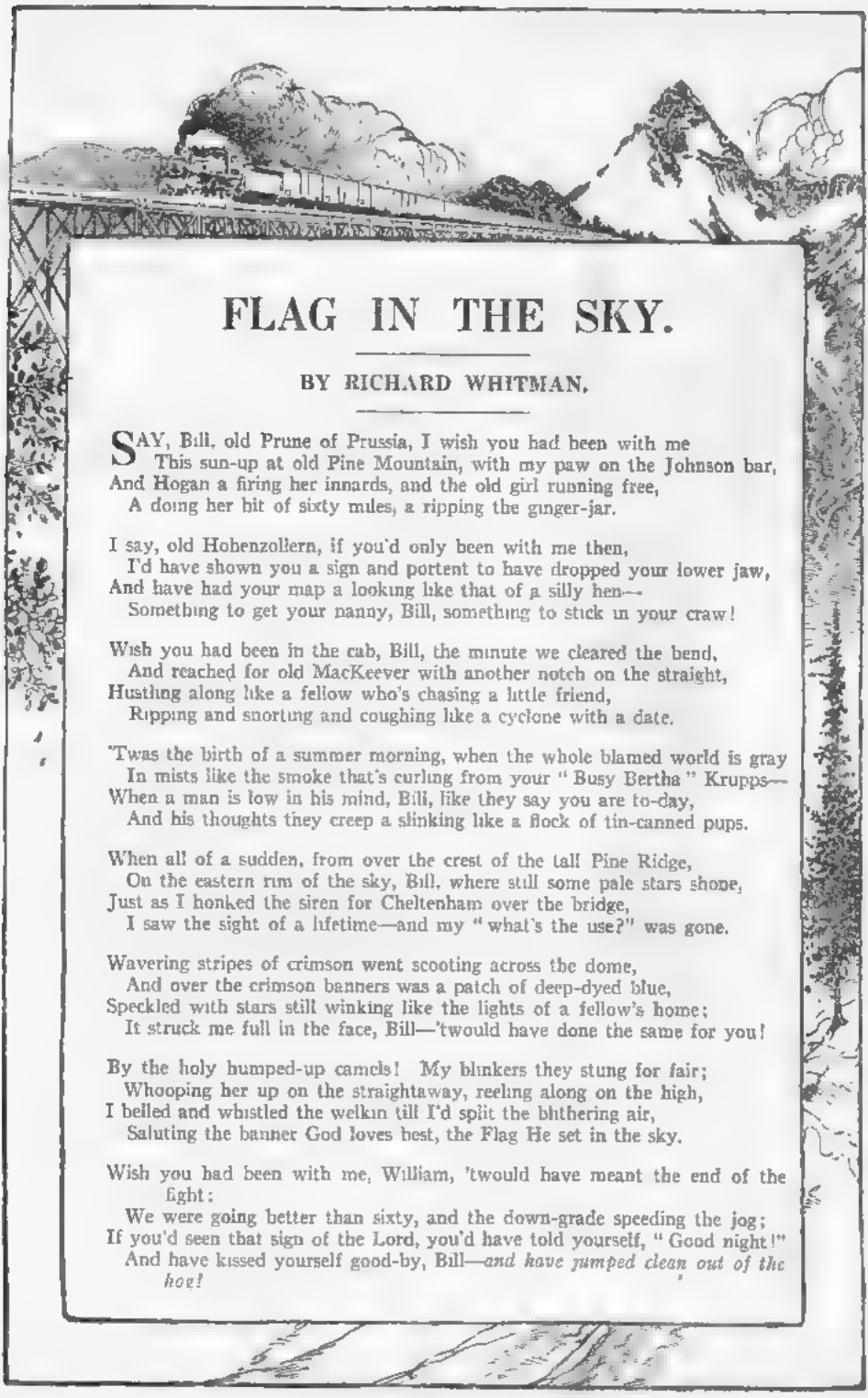
Railway postal clerks at present number about 18,000. Increases in the salaries amounting to not less than $100 per year were granted to 12,535 of these men in 1915.

As a great number of mail-clerks were formerly the victims of wooden cars, not to mention poorly kept cars, the advent of the all-steel construction, with proper lighting, heating and sanitary accommodations, is a matter of rejoicing among them.

Death and Accident Benefits.

They are also now provided with leave with pay for injuries sustained while in the service in line of duty, and in case of death there is relief for their relatives

But all in all the United States Government does not deal so liberally with its employees, considering the skill required, as do the railroads. Wages are comparatively lower and there is no such pension system as many railroad men enjoy. However, the eight-hour day prevails: and this fact, combined with the fascination of the work itself, operates to hold the men.



FLAG IN THE SKY.

BY RICHARD WHITMAN.

SAY, Bill, old Prune of Prussia, I wish you had been with me
This sun-up at old Pine Mountain, with my paw on the Johnson bar,
And Hogan a firing her innards, and the old girl running free,
A doing her bit of sixty miles, a ripping the ginger-jar.

I say, old Hohenzollern, if you'd only been with me then,
I'd have shown you a sign and portent to have dropped your lower jaw,
And have had your map a looking like that of a silly hen—
Something to get your nanny, Bill, something to stick in your craw!

Wish you had been in the cab, Bill, the minute we cleared the bend,
And reached for old MacKeever with another notch on the straight,
Husthing along like a fellow who's chasing a little friend,
Ripping and snorting and coughing like a cyclone with a date.

'Twas the birth of a summer morning, when the whole blamed world is gray
In mists like the smoke that's curling from your "Busy Bertha" Krupps—
When a man is low in his mind, Bill, like they say you are to-day,
And his thoughts they creep a slinking like a flock of tin-canned pups.

When all of a sudden, from over the crest of the tall Pine Ridge,
On the eastern rim of the sky, Bill, where still some pale stars shone,
Just as I honked the siren for Cheltenham over the bridge,
I saw the sight of a lifetime—and my "what's the use?" was gone.

Wavering stripes of crimson went scooting across the dome,
And over the crimson banners was a patch of deep-dyed blue,
Speckled with stars still winking like the lights of a fellow's home;
It struck me full in the face, Bill—'twould have done the same for you!

By the holy humped-up camels! My blinkers they stung for fair;
Whooping her up on the straightaway, reeling along on the high,
I belled and whistled the welkin till I'd split the blithering air,
Saluting the banner God loves best, the Flag He set in the sky.

Wish you had been with me, William, 'twould have meant the end of the fight:
We were going better than sixty, and the down-grade speeding the jog;
If you'd seen that sign of the Lord, you'd have told yourself, "Good night!"
And have kissed yourself good-by, Bill—*and have jumped clean out of the hog!*

"GENIUS OF TELEGRAPHY" IN BRONZE.

"THE GENIUS OF TELEGRAPHY" IS THE 16-TON BRONZE STATUE THAT STANDS ON THE ROOF OF THE WESTERN UNION'S NEW HOME LOOKING DOWN ON NEW YORK'S STREETS, 452 FEET BELOW

Photo by courtesy of Western Union News

THE twenty-six-story home of the Western Union Telegraph Company in New York was recently crowned with a new tribute to man's mastery over electricity in the form of a handsome, sixteen-ton bronze statue, "The Genius of Telegraphy."

This massive figure of heroic size, representing a man of great strength, stands above the Fulton Street tower of the skyscraper, looking down from a height of 452 feet upon the busy streets below

It is the work of Miss Evelyn Beatrice Longman, of New York, the noted sculptor. Miss Longman was a student of Daniel Chester French, and in recent years has won several awards for distinguished work in sculpture.

"The Genius of Telegraphy" is twenty-four feet high, including the base. It portrays a man from whose shoulders spring the wings of the wind. The left hand clutches the lightning of the heavens, while the right holds the wire coils which harness it to the earth and to the service of mankind.

The coils, winding gracefully about his body, descend to the earth, upon which he stands, and encircle the globe.

It is a virile and dignified conception It tells a story —the intense, vivid, real story of electricity in its relation to the work of man. And in the telling of that story the sculptor has displayed a fine imagination, as well as a skilful hand.

The figure is to be covered with gold and electric lights placed about the base with reflectors arranged to throw powerful lights which will envelop the statue, causing it to be seen at night from a great distance

Miss Longman has achieved many works of distinction. She was graduated with honors from the Art Institute of Chicago in 1900, and six years later was granted an honorary degree from Olivet College in Michigan, which she had attended

She won the silver medal at both the St. Louis and San Francisco expositions. This latest product of her art, "The Genius of Telegraphy," is regarded as one of the finest works of its kind in America.

JONES TAKES THE PHYSICAL EXAM.

BY J. W. EARP.

The September-Morn Stuff Gives Him a Chance to Reminisce; but the Doctor Gets the Best of it.

JONES the Boomer was registering in at the yard-office, when the yardmaster handed him a slip of paper with the advice:

"Better slip down and take it before you hit the hay. This may be your last chance to get it on this division, as I may use you as soon as your rest is up, and I know you don't want to follow the car off the division."

"Why, it's been only a short time since I let that old pill-peddler paw me over!" said the Boomer in a surprised tone, as he looked at the slip given him.

"Can't help it, old man. I took it yesterday morning; and if there is one spot old Purdue didn't prod into, all I've got to say is, I haven't got that spot."

"Beats the band how the railroad game is getting nowadays," said the Boomer, searching himself for a smoke. "Why, when I first went braking, all you had to have to be a brakeman was a switch-key, a lantern, a strong back, and a cast-iron stomach. But now! Nowadays you got to have a college education before you can get a job driving spikes on a section!"

"Sure have been lots of changes," assented the yardmaster, as he turned and gave the foreman some instructions about making up a drag.

"Have there? Ask your Uncle Fudge! Why, I'm the original examination-taker on this division. And when I'm not taking the different examinations, I am acting as local chairman for the Triple Linkers.

"Anything they've got that they don't want themselves, they wish on me. 'Give it to Jones,' is the slogan of the bunch, it seems, and I've about got a stomachful of it.

"Some of these days I'll be navigating my pedal extremities down the dusty pike away from this burg and its examination fiends. Well"—this last in a tone of resignation—"I guess I might as well blow down and let old saw-bones do the stunt. So-long."

"So-long," returned the yardmaster, and turned away.

The Boomer made his way in the direction of the car with lagging steps, still searching himself for the makings.

Three men were in the car when the Boomer entered it with a slamming of the door behind him. Doyle was next to the door of the examining-room; then came the student; while an old, salty, sad-eyed switchman perched on the end with a wo-begone look on his face and whose eyes alternated between the clock and the door of the examining-room. The Boomer took up a seat next to the sad-eyed one and said

"Give me a sawdust trailer, you, Gloomy Gus!"

"No smoking allowed," sadly stated the old switchman, pointing to a large sign in front of the car.

"That's right, mate," said Doyle, looking at the Boomer with eyes that fairly dripped admiration. "If the doc was to catch you smoking, he'd have a fit or three."

"We'll pay the doctor bill if he has

one," grinned the Boomer at Doyle, who smiled back.

Doyle, it must be remembered, had been black-listed and was reinstated again through the Boomer's efforts—or, rather, sharp practise—and he fairly worshiped the ground the Boomer trod.

While the Boomer was recovering from the shock of the no-smoking sign, the door opened and Dr. Purdue stood framed in the doorway. He counted them with rapidly moving finger and said:

"Four of you. Just enough. Come in"

The sentences were short and jerky like the owner, a little, dried-up man of some forty-odd years. Dr. Purdue was five feet four in height. Upon his huge nose balanced a pair of horn-rimmed eyeglasses.

The four men filed silently into the room and came to a stop in front of the desk where the doctor's assistant sat. Each laid his identification-slip on the desk. The clerk then gave each man a slip to fill out and sign. The doctor waved his arm as soon as the preliminaries were over, and said

"Strip!"

Every man proceeded to do so; that is, all except the Boomer, who had to argue about it.

"Say, doc, can't you give me the once-over, and let me blow home so I can pound my ear?" he pleaded.

"Strip!" commanded the doctor.

"The last time I took an examination I never even shed a shirt," commented the Boomer, as he began to take off his clothes.

"Line up in a row," said Purdue when the men finally finished undressing and stood before him

The men obeyed, and the Boomer surveyed the line with a grin on his face.

"Gee whiz, doc!" he exclaimed. "If we could only put this bunch on Broadway, our fortunes would be made. Wouldn't Florrie Ziegfeld and the rest of the B. A.'s fight for a chance to book the one and only original chorus of September Morns? Why, it would skin a gold-mine to death!"

"No levity, please," said the doctor, drawing a tape-measure from his pocket and approaching the first man, Doyle.

The doctor never called anything but numbers to his clerk because the examination-blanks were so constructed that superfluous words were unnecessary. The size hat worn came first; then in rotation came neck, chest, waist, hips, calves, ankles, and size of shoe.

"Seven fifteen—" began the doctor.

"And a run of three," supplemented the Boomer in a whisper

"Can the comedy, mate," pleaded the sad-eyed switchman. "My wife has dinner at twelve sharp and I want to be there. See?"

"Expand your chest," said the doctor to Doyle, as he slipped the tape under his arms.

"What?" Doyle's face was a picture in surprises.

"Poke out your chest, old man," elucidated the Boomer, and Doyle poked.

The doctor finished with Doyle and began on the student.

"Seven, fifteen, thirty-four, twenty-four," went on Purdue in a droning voice, and the Boomer whispered to the switchman:

"The student has a shape on him like a woman, hasn't he?" Receiving no reply, he went on:

"Reminds me of the time I was doing the female-impersonation act with Berrit's Barnstormers. I used to do a dance they called, 'The Dance of the Seven Veils,' and I had to shed the veils one at a time.

"But when I would come to the last veil, the police would always rush in and stop the performance. Of course, it was a frame-up on the management's part, but the hicks never seemed to get wise.

"We were salting the tainted stuff away by the trunkful until the day we blew into a town that was so corrupt the city dads didn't dare corrupt any further without getting in wrong; so what do we do but hire six big, husky roughnecks to yell, 'Fire!' just as I am about to shed the last veil. Everything works fine until I come

to the last veil, and would you believe me?—I have that audience so interested that even the roughnecks fall under the charm of my dance and forget their cue.

"There I am, sweating to beat the band, while that crowd sits with their mouths wide open looking to see me pull the last veil. The manager gives the cue six times; but nothing doing for the roughnecks.

"Finally I get sore and shed the last veil. When I stood before that bunch in a pair of the finest silk tights that money could buy, the crowd went wild.

"I guess they had never seen tights before from the way they acted when I slipped the veil. You ought to have seen 'em swarm up over the footlights, yelling like a bunch of Comanche bucks at a green-corn dance; and all I could hear was: 'Mob him! Mob him!'

"I don't wait to see if they mean biz—not me! I just make two jumps toward the stage door and start through it into the alley.

"'Hey! You can't go out that way!' yells the doorman. But I slips him the good old Mary Ann to the jaw, and he goes into dreamland and forgets all about these earthly troubles. Down Main Street I tore; and just as I turn the corner I see the Frisco yards straight ahead. Luck is sure with me this night, for there is a freight-train pulling out and headed East with one of the cars open on the side for me to crawl into, and I proceed to do so.

"There were about a dozen hoboes in that car, and they sure got their eyes full when I appear in their midst in my light and airy costume. Tights are all right in the summer-time; but they are a poor substitute for an overcoat in the winter

"I decide that the thing I must do is to get some clothes off these guys, so to get them in good humor first, I make a speech like this:

"'Fellow citizens and brother knights of the itching feet: You see before you only another poor unfortunate who has been shorn of his glittering raiment by the hostile element of yonder city, who as yet have not been educated up to the point where they can appreciate the wonderful beauties of the Salome Dance as interpreted by myself and the other great cosmopolitan artists of the modern age. As a favor I am going to make the rounds, and I want to ask each and every one of you to make a little offering of clothes.

"'All ready? Good' Brother Jones will now pass the hat.'

"I borrow the hat and make the rounds They all donate pretty freely; but when I have finished, I am still short of a pair of pants and a shirt. Once more I make the rounds; still nothing doing, and I admit I am stumped.

"That crowd doesn't seem like they intend to contribute any more to the fund which is to provide clothes for a poor Thespian, and I am determined to have some clothes. That was the case as it stood.

"I sized up that bunch of hoboes, and I saw one big, strapping fellow with a pair of pants entirely too good for the likes of him, so I ask him to contribute them. He wishes me in a hotter place than Yuma, Arizona; then, just to show I mean biz, I put Mary Ann to work once more. When I got through with that guy, he is a wreck for looks, but he sure does have a change of heart and throws in his shirt along with the trousers. I also keep the hat, seeing that the owner is willing that I should after he views the wreck of the pantless hobo."

The Boomer paused, and from force of habit tickled himself on the bare skin in the place where he usually carried his papers. To his surprise he found he was without clothes, and he turned to the switchman to remark about it.

Again he met with a surprise, for not only was the switchman not listening, but he was so absorbed in watching the doctor ply the tape over his body that it is doubtful if he heard a word of the Boomer's somewhat lengthy narrative. With a snort Jones turned to the clerk at the desk and said

"What's the chance for a pill, old pencil-pusher?"

"Your job," replied the clerk briefly, without looking up.

"Seven, seventeen, thirty-eight normal, forty-two expanded" the doctor was busy with Jones and was working fast—"thirty-two, forty-four, sixteen, twelve and five. Good! Built for speed, aren't you?" he added as an afterthought.

"Sure," grinned the Boomer. "Why, when I was braking on the old Pedro Ry, all the conductors wanted me to brake for them because I was the fastest thing on two legs that had ever struck that pike—"

"My wife—" began the sad-eyed switchman.

Doyle promptly shoved a fist like a small ham under the switchman's nose and said, "When friend Jones has the floor, you keep quiet."

The switchman looked at the clock sadly as Jones resumed the story.

"My nickname was Speedy, and I lived up to it to the letter. I would head the train in a passing-track without ever stopping it; look the train over all by myself; close the switch behind, and get on and make it back over to the engine.

"And when we got ready to head out, I'd stay at the switch to close it, and the hoghead would never pretend to look back to see if I was on, but would start in to operating on the pig to see if she was afflicted with the speed habit.

"But one night we are on a passenger-train. We head in and I perform according to Hoyle, as I usually do. But when we head out, the hoghead forgets he has only four cars instead of the regulation forty; and by the time I get the switch closed and locked, the train is a mile away, and the eagle-eye is walking on the hog's back something awful.

"I start after them right away, and figure on catching them before they get to the next town. But the going on the track is so rough I can't make the time, so I take to the wagon-road, which makes a short cut over the hill while the tracks go around.

"On my way to the next town, which is White City, I have to pass through a little country town called Miken. And when I go through Miken, the sparks are flying from my heels, while my coat-tails are standing in a straight line in the air behind me and my clothes are beginning to smell scorchy from the heat my speed is creating by contact with the atmosphere.

"One long, lean, lanky greyhound jumps up to race with me, but falls behind like a milk-wagon plug at a county fair race, and I leave him like he was standing still. The next morning the mayor reported to the Associated Press that a comet visited Miken during the night, and in passing down Main Street set fire to two buildings; also he asked the A. P. to ask the astronomers if they ever heard of a case where a comet had burned all the hair off a dog without killing him, as that was one of the things the comet did on its visit through the town.

"When I arrive at White City I don't see anything of the train in sight, so I keep on going to Dwight. At Dwight they aren't in sight yet, and so I can regulate my speed, I stop and ask the agent:

"'How long since No. 56 has gone?'

"He looks at me kind of funny like; then, seeing my uniform, he grins and says: 'Heck! They aren't *due* here for ten minutes yet!'"

"How long were you with that road?" asked Purdue, winking at his clerk, who was choking with silent laughter.

"Four years."

"What made you leave?"

"Well, sir—"

"Have a heart, Jones! Have a heart!" begged the sad-eyed switchman, with one eye on the clock and the other on Doyle's hamlike fist, which was shoved under his nose while Doyle was telling him to "Keep still!"

"Never mind," said Purdue to the Boomer, seeing that that worthy looked as if he was going to spin another yarn. "Keep it for another time."

He rapped sharply on the desk and said:

"On your toes!"

"Get set!" yelled the irrepressible Jones

"Shut up!" from the doctor. "Now"—as the men elevated themselves on the balls of their feet—"walk around the desk"

"Reminds me of the time I was with Hanford in 'Julius Cæsar,'" said the Boomer. "I played the part of the mob in the mob scene. Believe me, my acting was so real that many a time has the audience taken a hand! I never will forget—"

The switchman groaned as if in great pain, and let down, flat-footed, on the floor.

"On your toes!" snapped Purdue.

The switchman did so, and groaned again, whereupon the Boomer began humming, "Switchman, you are growing old."

The switchman cast a reproachful look at him and Jones laughed. In laughing he forgot and let down on the floor.

"On your toes, you!" rasped Purdue, shaking a warning finger at the culprit.

"If you think I'm qualifying for a position for a tight-rope performer, you're dingy in the noodle; I'm a brakeman," Jones commented

"You'll be a tramp if you don't do as I say," said the little man, looking over his glasses at the Boomer.

The Boomer only grunted as he assumed the position and finished the rounds When the four men brought up before the desk, they let down with a universal sigh of relief.

"The next thing," said the doctor, "will be to hop on one leg around the desk. Jones, you may show the gentlemen how it is done."

Jones performed the feat with much grunting and heavy breathing. When he finished he mopped his brow and panted:

"Oh, why didn't I cash in my checks the time we had the runaway on the Colorado and Midland and jumped the trestle at Manitou with fourteen cars of gold ore that were bound for the smelter at Colorado City? I would then have been in the clear of air cars, book of rules, physical exams and the like; instead of that, every time I stick my nose on the main line I get hit with an examination of some kind.

"I never will forget when I came back to myself that day in Manitou with my pockets full of ore, my body full of pains, my nose full of ammonia, and my head in a woman's lap. The photographer is standing over me with a camera and saying

"'Hold the expression, please. It is just what I want to complete my picture entitled "Surprise."'"

"My wife—" began the switchman, as he saw the clock showed the time to be 11.35.

"Will be drawing your insurance money and wearing black if you don't quit butting in on Jones," finished Doyle.

"How long were you with the Midland?" asked the little man.

"Six years."

"What did you quit for?" asked the doctor, as he put the rest of the men through their paces.

"For whipping Sandow."

"Sandow!" exclaimed the doctor. "You don't mean the Sandow that is the strongest man in the world?"

"Was the strongest," corrected the Boomer, as he once more tickled himself on the chest in search of his papers. "Yes; you see, we were on passenger one night, and he comes up into the baggage-car with a mask on his face, and I mistake him for a burglar. I tie into him and we had an awful fight, there in that baggage-coach.

"But I whipped him in the end, after I had blacked both eyes and ruined half of his teeth, not to mention breaking his nose and a few other trifles that are hardly worth counting in. He afterward told me I was the only man that had ever defeated him."

"And they fired you?"

"Yep; for fighting on duty."

With a look on his face like a cat that has been hit with a brick, the switchman looked at the clock and opened his mouth.

Doyle must have anticipated the move, because a hamlike fist crept under the switchman's nose, and he closed his mouth like a fish with a worm in it.

"Hum!" muttered the doctor. "You've had that arm broken, haven't you?"

This as he felt of Jones's right arm.

"Yeah; I got that when I was shacking over on the S. P. out of Frisco. A hog-head overlooked a positive meet one night and kissed a passenger-train on the main line. Just before we hit, the conductor tumbles to the fact, and sticks his head out of the door in time to see the head-light showing up around the curve.

"He yells for me to jump, and I do. He follows me out of the door and lands in a pool of water, coming out without a scratch; but I sideswipes a bunch of ties for a complete knockout."

"How long were you on the S. P.?"

"Five years."

"Why did you leave?" asked the doctor as he began prodding the switchman's body for injuries.

"I got fired for saving the life of the super's wife's pet bulldog."

"Indeed!" said the little man, as he began on the student.

"Yes; you see, they were in a wreck, and the dog is pinned under the car the super was riding in. Mrs. Super carries on something awful when I pull her out of the car and she finds out that Rover is still imprisoned in the wreckage. To oblige her I crawl in the car and rescue Rover.

"What thanks do you think I got from that dog? None whatever! Just as soon as I get that dog out of the wreck he completely ruins a pair of pants for the porter, chews the conductor's patent-leathers up, runs me for two miles up the track, and makes me climb a semaphore to get away from him.

"And then, when I get in, the super calles me into his office and ties a wash-boiler onto me. He said he had been trying to get rid of that dog for over two years, because every time he came home he had to call for police protection before he could get into the house."

The doctor was coming back down the line with his stethoscope. He stopped in front of the Boomer and applied it around his chest and neck.

"Hum!" he grunted. "Do you know you have a good pair of lungs on you?"

"Sure," said the Boomer.

"But," said the physician, as he listened intently to the heart-beats of the Boomer, "you have a tobacco heart. Don't you know that tobacco is a slow poison?"

"Right you are, doc. I've been using it for twenty years. She certainly is slow."

The doctor only smiled and turned the Boomer around. As he did so, his eyes fell upon a long, red mark down the center of the Boomer's back.

"What is that long, red mark on your back?" he asked.

"Oh, that!" airily explained the Boomer; "that is caused from brassing cars. You see, whenever we have a car to brass, I get under the car, put my back against the end sill, lift up on the car, force my elbow under the wheel, and bear down as I lift up, while the conductor and other brakeman brass the car.

"Why, the conductors I brake for never think of carrying brasses when I am on the car. Neither do they bother with jacks or bars nor any of the rest of that stuff as long as I stay on.

"Why, the conductors almost fight for me to get me to brake for them. But I am pretty well satisfied with old Bill Grady—"

"11.55, doctor," said the clerk.

The switchman stifled a moan and shot him a grateful glance for the interruption.

"So it is!" exclaimed the doctor. "You make out the slips; I am about through."

"How old were you when you first went braking?" he asked the Boomer.

"Twenty-two," replied the Boomer.

The doctor nodded to the men and said tersely:

"You may put on your clothes and go when you are ready."

While the rest of the men donned their clothes with leisurely movements, the switchman fairly jumped into his and,

though but half-dressed, he dashed through the door and went racing across the tracks, buttoning his clothes as he ran. The Boomer eyed him in great glee.

"Look at the cinder-crunched sprint! If the yardmaster could only see him now, he'd fire him for exceeding the snake's speed-limit. Wow! Did you see him jump that fence? Some hurdler! Two to one that the funeral director makes it home for dinner!"

The doctor only smiled as the Boomer delivered his little speech and, stooping, whispered something in the ear of the clerk. The clerk nodded and grinned.

One by one the men filed by and received their slips. Soon there were but the clerk, the Boomer, and the doctor left in the room.

"The switchman forgot his slip," said the clerk, holding the paper up to view.

"Mail it to him," ordered the doctor.

"I'll take mine now," put in the Boomer, as he tied his necktie and reached out his hand.

"Sorry," murmured the doctor, "but I can't pass you."

"Why?" The Boomer stood and looked at the doctor as if he could not believe his own ears as he added, "How is that?"

"Your prevaricating powers are terribly enlarged—so much, in fact, that I cannot conscientiously pass you."

The Boomer swallowed hard as he asked.

"Am I all O. K. other ways, doc?"

"Oh, yes. Your age is against you, but—"

"My age?" Again the Boomer registered amazement.

"Yes, your age. You were twenty-two when you first started in braking. Four years on the Pedro—"

"Aw, doc—"

"Five years on the S. P.," went on the doctor.

The Boomer dropped his cigarette, but did not offer to reply.

"Six years on the Midland." The doctor was perfectly heartless.

"Aw, doc, I was only on that road three months. I was just stinging the switchman to hear him holler."

"And the red mark down your back?"

The Boomer looked helplessly about him and, seeing no pity in the eyes of the doctor, explained:

"I got that last night trying to get a little shut-eye. I crawled inside a ventilator-shaft and one of the rods kept seesawing up and down my back; that's how that was caused."

"I am sorry, my boy," said the doctor; "but my mind is made up. Good day!"

"Good day," said the Boomer weakly, and turned to go.

The door closed upon him and he staggered down the steps like one in a dream, mopping his brow and exclaiming:

"Stung, by gee!"

When the doctor saw the Boomer pass the window outside he turned to the clerk.

"Mail his slip to him," he said.

"Yes, sir," answered the clerk, and laughed.

The doctor smiled as he picked up the sheet with the Boomer's record on it.

"A perfect animal, if there ever was one," mused the doctor, shoving the slip over for the clerk to look at.

"He is that!" agreed the clerk. "But, on the level, did you ever—"

He left the sentence unfinished, and laughed again. The doctor shook his head as he replied:

"No; never!"

Jones the Boomer Says:

IN the millennium every caboose will have a phonograph and a pool table.

FROM THE RAILROAD MAN'S MAGAZINE

THE "MKT-QN" MORSE OPERATOR.

He Has a Phillips Code That's All His Own—Must Be Long in the Memory and Strong in the Legs.

BY R. W. JOHNSON.

SEVERAL years ago, while working for a Michigan railroad, I became acquainted with a young man who was employed as operator by a stock and grain broker. He called on me several times and finally invited me to visit his office. I accepted and several days after repaired to the place, which was located on one of the upper floors of an up-town office building.

There is a marked contrast between a railroad telegraph office and the office of a brokerage firm. The first is generally located in a smoky, dingy station or in a signal tower placed in the most lonesome and forsaken spot available, while the latter is always found in a clean and well-furnished office building.

When "Morse Ain't Morse."

My friend—I will call him Turner—was busily banging away at a decrepit and noisy typewriter when I entered. His actions seemed to indicate that he would have no time for conversation, so I sat down and listened to the Morse.

To the operator of average experience "Morse is Morse," wherever it is used; but let him try to read the dots and dashes that spout from the sounder of a stock quotation wire and he will be convinced that this Morse is *not!* This sender had a "swing" all his own and in addition to sending at an excessive rate of speed he was using some code which to me was undecipherable and most astonishing. The first paragraph I heard sounded something like this:

> It hb a wea mkt in wht fo svl das & t turn hb dcdly ifo lor pxs owing to generous rains over t winter wht fields f sowest

Of course, my professional pride forbade my asking any questions as to what it was all about, so I maneuvered around till I was able to look at Turner's copy. His translation was as follows:

> It has been a weather market in wheat for several days and the turn has been decidedly in favor of lower prices owing to generous rains over the winter wheat fields of the Southwest.

Several more paragraphs of this followed. I was offering myself odds that the ancient "mill" would not hold out for another sheet when the "gossip" stopped. Then the quotations advanced on us.

Oh, Didn't He Ramble!

At first they came in skirmish order and I was able at least to remember that they had been sent when Turner, the mental giant, had chalked them on the board. He did this in a very business-like manner, always two or three quotations behind the wire. This was to eliminate the necessity of walking the length of the board, about twenty feet, after every quotation.

If he was near the right-hand end of the board writing the intelligence that Westinghouse Electric was selling at

52 1-8 he would not dash madly to the other end of the board to chalk up American Beet Sugar at 93¾ if that happened to follow, like a second section. Instead he waited until he received another quotation whose place was near the right end of the board, and after chalking it up he would stroll leisurely to the other end and mark up the quotations he had received in the mean time.

"High-Lowing" the Game.

At two-thirty P.M. he indulged in what would be a very efficient fire drill. It is known to the operators of his cult as "high-lows." At the top of the board above the name of each stock, are four columns reading, "Open, high, low, close." At two-thirty by our time the sender at Chicago started to fill in these spaces. My friend could not reach these columns, but was well prepared for the emergency, if it was an emergency, for he brought a short step-ladder from the corner and mounted it.

A life on the bounding wave is generally credited with producing an active and muscular body, but I am positive that the nimblest sailor could not have scaled a ladder with the grace and despatch that my friend Turner did, and I would not handicap him by asking to write down four quotations after each climb.

When the "hi-los" were finally all in and the customers had dispersed for the day Turner became more talkative and offered to show me some of the fine points of the game the next time I called. For my part, I am content to leave the fine points of that game to him and devote my time to those of railroading, such as being able to awaken when the despatcher calls and never forgetting to pull in my order-board after I have handed on the flimsies.

P.384

UNCLE SAM'S OWN ALASKA RAILROAD.

Dirt Is Flying in Our Great Northland Territory for a Line 511 Miles in Length to the Heart of the Interior.

NEW EL DORADO TO BE OPEN TO THE PEOPLE.

Route to Cost $35,000,000, Owned and Operated by the Government—May Be in Full Operation by 1920—5,000 Men Employed in Season—Electric-Lighted Cities Springing Up in Wilderness—Mighty Resources Now to Be Exploited.

BY MARLEN PEW.

PERHAPS you have heard rumors that the revered old

date we have taken more than eighty times as much wealth from the land as

territory. At least there is evidence that Alaska is about to be better known to the people of the United States who own it.

In order clearly to have a perspective view of this government railroad venture one must consider the Alaskan promise. It is a subject of magnitude, but perhaps the following descriptive paragraphs, compiled from data chosen more or less at random, will serve to point the way:

SNAP-SHOT VIEW OF THE ALASKA RAILROAD.

Building from Seward, on Resurrection Bay, to Fairbanks.
Length of main line, 473 miles.
Length of branch to Matanuska coal-beds, 38 miles.
Total mileage at present under way, 511.
Alaska Northern Railroad, purchased, 71 miles, partially reconstructed.
New track laid to date, about 72 miles.
Grade completed, 54 miles; under way, 34 miles.
Clearing completed and under way, 161 miles.
Appropriated by Congress, $35,000,000.
Engineers' estimates, exclusive of rolling stock, $27,583,185.
Penetrates the heart of the interior of our great northern territory, which is one-fifth as large as the United States proper.
This is Uncle Sam's first state built, owned and operated rail line, to be used for general purposes.
As many as 5,000 men are employed in the season at construction work.
Cities are springing up like mushrooms in the wilderness.
Alaska holds a supply of coal for five centuries, and has contributed eighty times as much wealth since it was bought from Russia as the purchase price, $7,200,000.
The advent of a first-class railroad, to be operated by the government, is hailed by the populace with joy.
May be in full operation by 1920.

In the first instance, Alaska is a whale of a big place—it is fully one-fifth as large as the United States proper. You could crowd into it the following States: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, North Carolina, South Carolina, Georgia, Florida, Mississippi, and Tennessee. It has 590,804 square miles, or about 369,539,600 acres, and the cost to the United States was less than two cents per acre.

A large portion of this territory lies in the same latitude as Sweden, Norway, and Finland; Alaska has a much better climate and more fertile soil. The United States Department of Agriculture, after many years of experimentation, announced that there were 64,000,000 acres of the land fit for farming and grazing and susceptible of sustaining a population of five million persons by agricultural pursuits alone—which is a population greater than that accorded by the census of 1910 to any State in the Union except Illinois, New York, and Pennsylvania.

There are in Alaska to-day only about 70,000 people, more than half of the number Eskimos and Indians.

The finest hunting lands on this continent exist in the north, furnishing for the sportsman the brown and Kadiak

bears, both ferocious; moose, caribou, mountain sheep, goats, walrus, and seal, while the streams swarm with magnificent fish. The cod-banks are the finest in the world. The herring equal the Norwegian variety.

there is sufficient coal in Alaska to sustain the people of the United States for 5,300 years, at the present rate of consumption. However, owing to the limited railroad facilities, only $300,000 worth of coal was mined there in 1916. A sys-

THE TOWN OF ANCHORAGE, 120 MILES FROM SEWARD, A WILDERNESS TWO YEARS AGO, IS NOW A THRIVING PLACE OF 4,500 POPULATION IT IS AT THE HEAD OF NAVIGATION FOR OCEAN-GOING STEAMSHIPS, AND IS FIVE MILES FROM THE MAIN LINE RAILROAD, WITH WHICH IT IS CONNECTED BY A BRANCH

There are more than 3,000,000 caribou roaming the tundra on the shores of the Arctic Ocean. Since our occupation of the country the value of the fish, walrus, ivory, aquatic furs and whalebone produced is said to have amounted to over $250,000,000.

Coal for Centuries.

The total value of mineral production in 1916 is estimated by the Geological Survey to have been $50,900,000, an increase of $18,000,000 over 1915. During 32 years the mineral production has been $351,000,000, largely in gold, silver and copper. The gold output last year was over $17,000,000, and the copper about double that figure.

Alaska contains approximately 21,000,000 acres of coal lands. Of this amount 32,000 acres were staked by the men who discovered this marvelous store.

Government geologists have said that

tematic exploitation of these coal beds is about to be undertaken

The scenery of Switzerland is no more magnificent than that of Alaska. The territory's wonderful rivers are navigable for thousands of miles, its forests cover a wide realm of solitude, its giant peak, Mt. McKinley, reaches the greatest altitude on this continent, its glaciers are the largest in the world, except those recently discovered near the North Pole, and in the summer the major portion of the country becomes a veritable paradise, millions of acres being carpeted with brilliant green wild grasses and shrubs in tropical profusion, blazing flowers, berries, wild fruits and succulent vegetables.

Where Mercury Jumps.

The temperature at many points in southeastern and southwestern Alaska is not so cold as New York in winter, nor

as warm in summer. The atmosphere is tempered by the Japan Current.

East of the Coast Range, however, the thermometer drops to 80 degrees below zero in winter and sometimes rises to 106 degrees in the shade in summer. Snow 30 feet deep is common enough. In summer the days are from 18 to 24 hours in length.

The Eskimos and Indian tribes flock by themselves; and while many of them are squalid, unprogressive people, others lend themselves to industry and are especially active in the fishing and hunting industries.

Contrary to the popular impression, largely created by the fiction of the melodramatic movie, Alaska is not a free playground for irresponsible people, the dance hall is not the center of social intercourse, nor are gambling, thieving and murdering the chief sports.

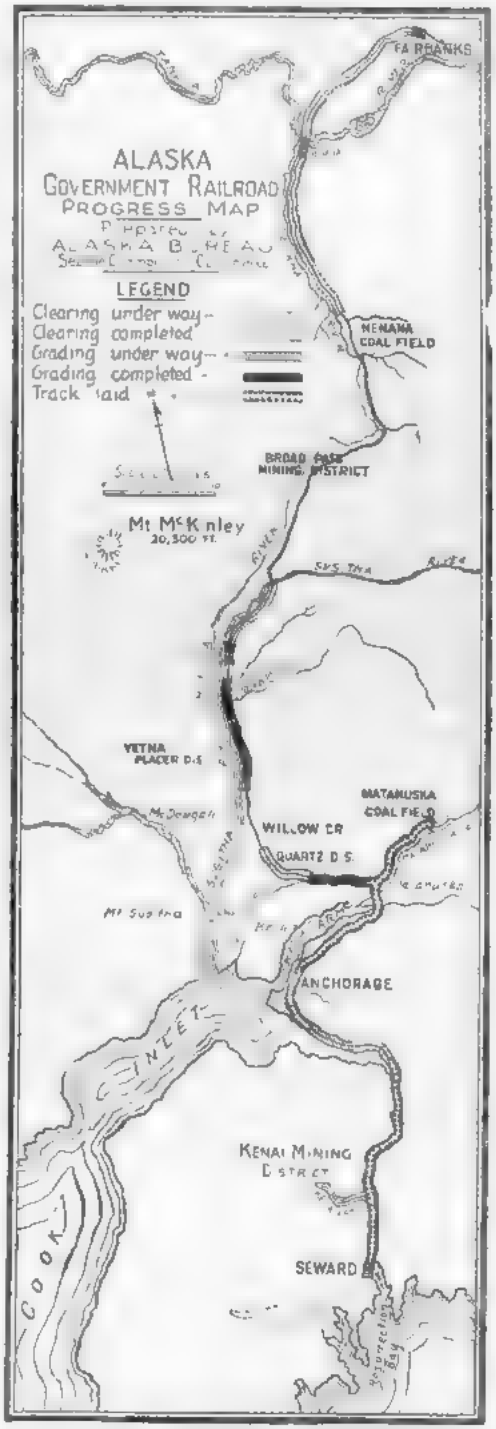
There is less crime in Alaska than any State of the Union. The people are generous, whole-souled, hospitable, thrifty, and usually prosperous, frankly proud of the country of their adoption and possessing boundless confidence in its future.

"Bad Men" Only in the Movies.

They do not tolerate open gambling, they sit down hard upon the old "bad stuff" of the gold-rush days, they have their schools, churches, and fraternal societies and are devotees of the thrilling outdoor sports that the country offers both in winter and summer.

Acre for acre, Alaska is believed by experts to be more valuable than many States of the Union, with practically all of its wealth awaiting the coming of men and tools.

When, a few years ago, public opinion called forth in the policies of government a campaign of conservation of the natural resources still in possession of the nation, much of the richest possessions of Alaska were held in reserve. It was this general policy that bred the notion that the government, better than private interests, might construct and operate the railroad



SHOWING THE EXTENT OF THE GOVERNMENT RAILROAD NOW BEING BUILT IN ALASKA, FROM SEWARD TO FAIRBANKS, A DISTANCE OF 473 MILES.

system which is destined to make the boundless resources available to the use of mankind.

The first link in the chain of government control of the development of Alaska is the building of the Alaska Government Railroad, extending from the port of Seward, on Resurrection Bay, almost due north to the city of Fairbanks.

The length of the main line is to be 473 miles. There is a branch of 35 miles, for the purpose of tapping the Matanuska coal field.

The sum of $35,000,000 has been appropriated by Congress for the construction of this line, and it is now believed by the engineers that the feat will have been accomplished well within the appropriation. It is believed in engineering circles that this railroad is but the forerunner of a network of government railroads destined to radiate throughout the country.

To date 143 miles of the railroad have been built. Of this, 71 miles represents the Alaska Northern Railroad, which the government purchased as the nucleus for the line. It was a privately owned, standard-gage line, running from Seward to the head of Cook Inlet. The price paid was one million one hundred and fifty thousand dollars.

IN CONNECTION WITH THE ROAD-BUILDING PRESIDENT WILSON ORDERED THAT A STRIP OF TIMBER FIVE MILES WIDE ALONG EACH SIDE OF THE RIGHT-OF-WAY BE OPENED FOR BUILDING USE. MUCH OF THIS, HOWEVER, IS COTTONWOOD AND OTHER SOFT VARIETIES, SUITABLE ONLY FOR CROSS TIES AND PILINGS

The construction of this railroad system was authorized by an act of Congress which was approved by President Wilson, March 12, 1914. The President was directed "to locate, construct, and operate railroads in the Territory of Alaska."

1,000 Mile Line Authorized.

This general power was limited by a clause providing that the route designated should not exceed 1,000 miles in length and should be so located as to connect one or more of the open Pacific harbors of the southern coast of Alaska with the mighty navigable waters in the interior, and also with coal-fields, so as to "provide

transportation of coal for the Army and Navy, as well as the transportation of troops, arms, munitions of war, the mails, and for other government and public and private uses."

In two months the President had created the Alaskan Engineering Commission, and the project was under way. The commission, acting under the authority of the Secretary of the Interior, was instructed to locate available routes from ice-free harbors to the navigable rivers in the north. The sum of $1,000,000 was appropriated for this preliminary work.

Practical Men.

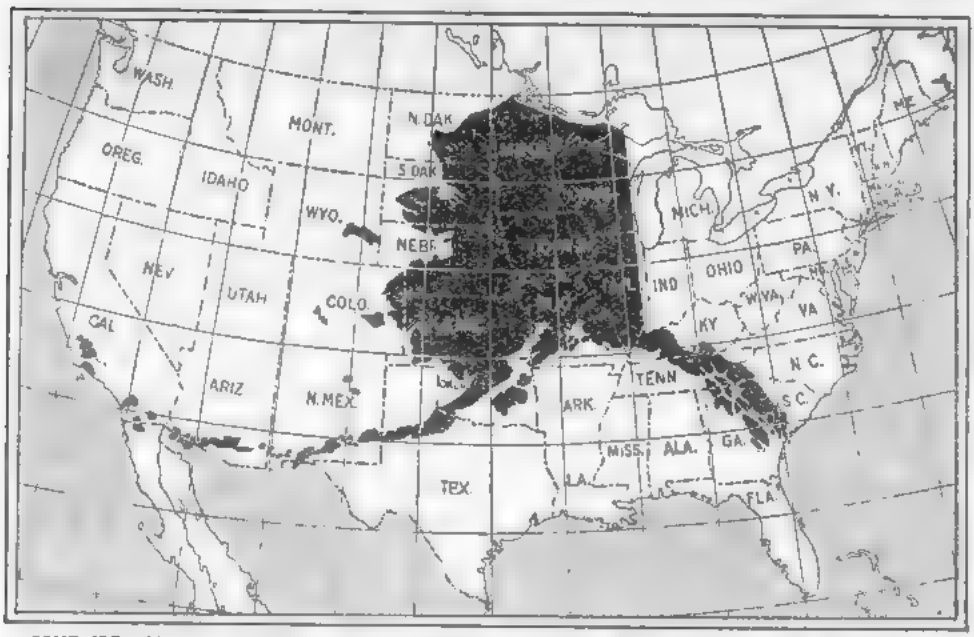
The President was particularly fortunate in his selection of men well equipped in every way to undertake the work. William C. Edes, of California, was made chairman of the commission.

Mr. Edes was chief engineer of the Northwestern Pacific Railway at the time of his appointment. He had fame as the locator and builder of some of the most difficult railroads in the West, and it was he whom Harriman selected to locate new lines across the Sierra and Siskiyou Mountains. For many years Mr. Edes was in the employ of the Southern Pacific.

Associated with Mr. Edes as commissioners are two younger men, Lieutenant Frederick Mears, U. S. A., a veteran of the Isthmian Canal construction and former superintendent of the Panama Railway, which he successfully reconstructed, and Thomas Riggs, Jr., of Utah, who had spent 16 years in Alaska exploration and whose intimate knowledge of the country and its needs had caused him to be selected as chief of the Alaska Boundary Survey, which position he resigned.

Quickly in Field.

Twenty days after the President had ordered the preliminary surveys these three men were in Seattle, opening offices, employing men, purchasing equipment and supplies. It was too late in the season to accept the plan of transporting supplies by sled in the winter and caching



SOME IDEA OF OUR VAST NORTHERN TERRITORY IS GAINED BY THIS MAP WHICH SHOWS THAT ALASKA, SUPERIMPOSED ON THE UNITED STATES PROPER, COVERS ONE-FIFTH OF THE COUNTRY'S TERRITORY, OR AN AREA OF 590,804 SQUARE MILES.

them for summer [illegible] commission purchased pack outfits with 125 horses and mules, 74 additional animals being later purchased in Alaska, filling the complement.

By June 15 the entire organization was in the field. Two general routes were investigated:

(1) Cordova, northward *via* Copper River, Tonsina River, Delta River, Tanana Valley, in the vicinity of Fairbanks.

(2) Portage Bay, or Seward, following the shores of Turnagain River and Knik Arm, up the Sushitna Valley, the Broad Pass, down the Nenana River to its junction with the Tanana and thence to Fairbanks.

Thirteen surveying-parties, each under the direction of a competent engineer and topographer, did this work. They operated from two main bases of supplies, one at Ship Creek, where the town of Anchorage has since been established, and the other at Fairbanks, by the Tanana River.

The surveying-parties worked all summer, and in the fall returned to Seattle to report. They brought with them a remarkable set of maps, showing every feature of the rival plans.

By February all of the plans were in the hands of the President. On April 10 he selected the Susitna route as possessing superior advantages for the construction of the first line into the interior. The commission reported that this line could be built at an expenditure of $27,000,000.

THE MACHINE-SHOP OF THE GOVERNMENT RAILWAY, WITH A FLOOR SPACE OF 22,500 FEET, UNDER CONSTRUCTION. THIS PHOTOGRAPH WAS TAKEN LAST SEPTEMBER. THE PLANT IS NOW FINISHED AND RUNNING FULL BLAST

Bought the Alaska Northern.

It was at this time that the President authorized the purchase of the Alaska Northern, at $16,000 per mile, the total sum including the right-of-way, waterfront, docks, office buildings, yards at Seward and some light equipment. It is interesting that the line was purchased for less money than the engineers had estimated to be the physical value of the property. Because of financial difficulties the line had been practically abandoned

and was in bad repair. Much of it had to be rebuilt

The Alaskan Engineering Commission was employed to carry out the work. Two weeks after the designation of the route the first construction was in process.

In a short time a part of the old railroad was made fit for general use, and the government began to run a gasoline motor-propelled train over 35 miles of it, with regular schedules, charging 12½ cents per mile for passenger service and 1¼ cents per pound for general freight.

The town of Anchorage, 120 miles from Seward, on Knik Arm of Cook Inlet, was a wilderness two years or so ago, but today it is a thriving, bustling town with a population of more than 4,500. It is at the head of navigation for ocean-going steamships and is five miles from the main line of the railroad, with which it has been connected by a branch.

Supplies for the railroad coming to this point traveled the maximum distance by water to the railroad. These same supplies could be transshipped on shallow draft boats and barges for 100 miles up the Susitna River.

High Land Prices.

When Anchorage took on the appearance of a town the government decided to sell at auction a number of building-lots, and surprising prices were obtained. To date, 1,106 of these lots have been sold, the price aggregating $216,845.

As the extremes of the tide's flow and ebb at Anchorage are 40 feet, steamers cannot go to the dock and discharge or take on cargoes. The old method was to unload on lighters, tow these at high tide to the beach and unload on the sand when the tide receded. It was an awkward plan, because so much time was lost and demurrage on steamers sometimes ran to as high as $150 to $200 per day.

One of the first improvements was the construction of cribs on the docks. The lighter is now floated onto this crib at high tide and more easily handled when the tide recedes. A cargo of a million feet of lumber was discharged in three days by this method.

Anchorage has a first-class hospital, though there is very little for it to do except cure the cases of men with ax cuts. The sale of liquor is prohibited.

There is a jail and a town marshal, but they are idle for the most part. It has a paid fire department, graded schools, a ten-page daily paper and two weeklies, a hotel, movie show, woman's club, churches, secret societies, and 25 automobiles.

Many of the first supplies to reach Alaska came from Panama, such as steam-shovels, locomotives, derricks, cars and shop machinery, all having seen service in the building of the canal.

Free Timber.

In connection with the road-building, President Wilson ordered that a strip of timber 5 miles wide along each side of the route of the railroad be opened for building use. However, much of this timber is cottonwood or other soft varieties, doing well enough for cross-ties and pilings, but unsuitable for heavy trestle and bridge work. The latter is brought from Washington State and is costing about $19 per thousand feet.

The commission selected a 70-pound steel rail, costing $30 a ton.

The government declared an eight-hour work day, and this rule is enforced upon all save the contractors, who are in the majority, much of the job being on the basis of sub-contracting. There has been some criticism of the government on this account.

A system of compensation exists for men incapacitated through injury or killed in the course of duty. If living, they are cared for and compensated, and if killed their families are pensioned.

One of the features of Anchorage is a large amusement hall and library, constructed by the government, for wholesome social intercourse of the town's inhabitants, practically all of them railroad builders and their families.

Immediately the townsite was located, a serviceable dock was built as well as temporary warehouses, office buildings and employees' living-quarters. Within a few weeks after the news spread over the Pacific Coast that the government was to build a railroad more than 2,000 men appeared on the scene in Alaska, begging for jobs. The problem of unemployment became so acute that notices were published in the West advising men to keep away.

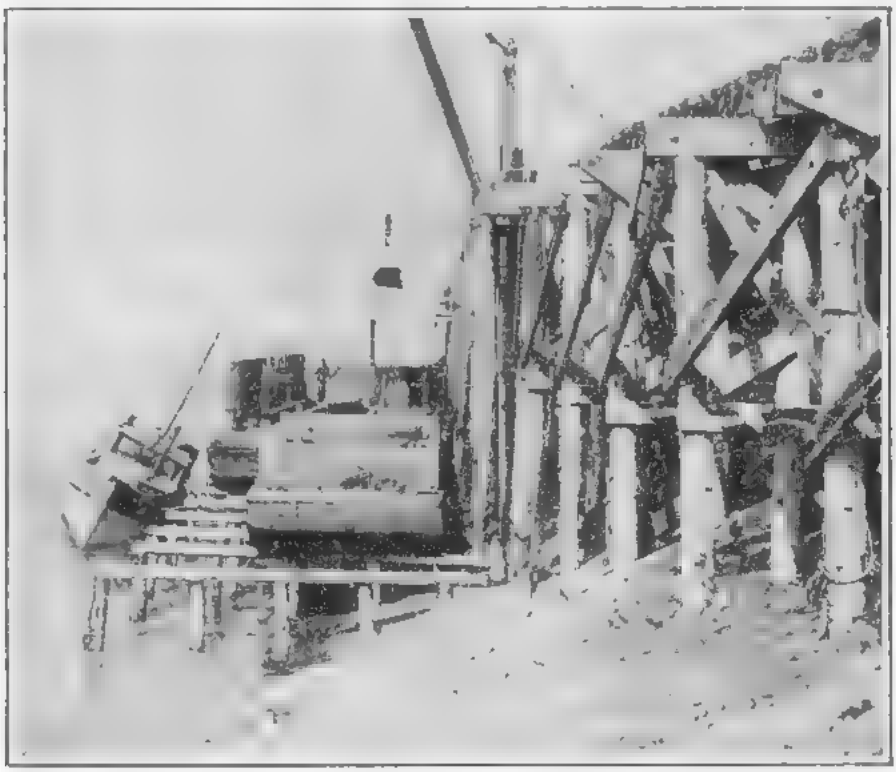
By July some 600 men were at work in the Ship Creek district, exclusive of those engaged in contract work

The plan of using "station men" was early adopted. Under this plan a number of laborers associate themselves as partners and agree to do the work allotted to them at a certain price per cubic yard for grading, or per acre for clearing and grubbing.

The number of these station men fluctuated from about 400 early in July to 725 in the latter part of July. The number then gradually decreased as the work planned for the season was cleared up.

By December 15, 1915, in the Ship Creek district the right-of-way had been cleared for about 40 miles, grading had been done over 34 miles, and nearly a million cubic yards of material had been excavated. Track had been laid to Eagle River, 14 miles north of Anchorage.

Here the first large bridge was built, 906 feet in length. At Anchorage terminal three miles of side-track had been laid and 120 miles of telephone rigged, while the reconstruction of the old rail-



SINCE THE EXTREMES OF THE TIDE'S FLOW AND EBB AT ANCHORAGE ARE 40 FEET, STEAMERS CANNOT GO TO THE DOCK TO LOAD OR DISCHARGE THEIR CARGOES SO CRIBS WERE BUILT ON THE DOCKS AND LIGHTERS ARE NOW FLOATED TO THEM AT HIGH TIDE A MILLION FEET OF LUMBER WAS DISCHARGED IN THREE DAYS BY THIS METHOD

NENANA IS ANOTHER TOWN THAT HAS APPEARED AS IF BY MAGIC IN THIS FAR NORTH COUNTRY IT HAS ABUNDANT COAL-DEPOSITS, EXCELLENT HARBOR FACILITIES, SUBSTANTIAL OFFICE BUILDINGS, SHOPS, A HOSPITAL, WATER-WORKS, SEWAGE SYSTEM, ELECTRIC LIGHT AND TELEPHONE

road from Seward was well under way. A fine machine-shop was built at Seward.

On the Fairbanks end no construction was done the first year. But complete surveys were made between Fairbanks and Broad Pass. Not much construction was done in winter, beyond the hauling of supplies.

Getting Going.

By July, 1916, about 4,300 employees were on the government payrolls. But this number was reduced in November and December

A résumé of the progress made during 1916, according to Lieutenant Mears, showed 72½ miles of railroad in operation on the Anchorage Division, including 38 miles of main line north of Anchorage, 10¼ miles south from that point, and 24 miles of the Matanuska branch line, in the direction of the great coal-beds. Additional right-of-way had been cleared on the main line for 35 miles, and 26 miles had been graded.

Farther north, in the vicinity of Talkeetna, 62 miles of right-of-way and 23 miles of grade had been prepared. Also, by this time, 70 miles of the Alaska Northern had been opened to light traffic, with 30-ton locomotives.

Create Another Town.

At the present time the work under Mr. Riggs, at the Fairbanks end, includes upward of 100 miles of right-of-way cleared, with some of it graded. At Nenana another town has sprung up, with substantial office buildings, shops, employees' homes, a hospital and dock, and provided with water-works, sewage system, electric light, and telephone. Building-lots there sell at the average price of about $900. Some boom days for the real-estate operator!

Now, at Anchorage, the first log cabins have given away to modern structures, the machine-shop has grown to have a floor-space of 22,500 feet, there is a large commissary and cold-storage warehouse, a dining-hall, bachelor quarters, fire-hall, passenger and freight depots, and a mod-

ern power-plant. The town is electrically lighted.

The dock facilities have been enlarged and the commission has purchased a steamboat, tugs and a fleet of barges. A United States transport was chartered to carry passengers and freight between Seattle and Seward and Anchorage. Also a collier has been pressed into service.

Ready by 1921.

The railroad from Anchorage is expected to be finished to the end of the Matanuska coal-field by the winter of 1917, and the Nenana field will probably be reached one year later. The outlet for the Nenana field will be at the Tanana River terminus until the connection is made with Fairbanks. It is now believed that trains will operate between Seward and Fairbanks by 1921, possibly 1920.

In addition to the coal-fields to be tapped it is known that there are several lode mining-districts of value located in the vicinity of the railroad route, needing only the solution of the freight and fuel problem to become productive.

Then there is that marvelous stretch of fine agricultural land beckoning to hardy tillers of the soil to come and sow and reap. The valleys of the Matanuska, Susitna, and Tanana Rivers are singularly adapted to the raising of the hardier small grains and a large variety of vegetables. Potatoes yield 300 bushels to the acre.

Chance for Cattle Men.

There is to-day practically no stock-raising and dairying in this virgin field, and it is a curious fact that the railroad builders are eating Chicago beef. However, it is predicted that within a year or two Alaska will supply all of the requirements of her rapidly growing population.

At present there are about 500 homesteaders on the line of the railroad, supplying food stuffs to the railroad-builders. They have contracted to supply 13,000 bushels of potatoes next summer.

Of course the engineers are encountering some difficult problems in this work of spanning a frontier country of peculiar geological formation. Along the Matanuska, for instance, there are gravel cliffs hundreds of feet high which, like Panama, are inclined to slide.

To avoid this it is proposed to build up the railroad embankment along the side of the river-bed, against the cliffs, diverting the course of the stream with wing dams.

The problems of glacier formation, ice-clogged and flooding rivers, heavy snow-storms, wide swamps, and difficult bridging all have to be met.

The winters are long and construction work is then impeded, but this is the best time for hauling supplies and making preparations for the summer work.

In fact, it is the time to build over the lowlands and swamps. In the summer a man or horse would sink into the morass, and the tropical jungle undergrowth is difficult to handle. But in the winter, roads are easily broken over these lowlands for the supply sleds.

Homely but Solid.

Nothing in the way of ornate construction is being attempted. The government railroad is to be as homely an affair as need be, but it is planned to be substantial and fit to do big service.

The detailed estimates of cost are:

Terminal docks and yards at Portage Bay, $150,000; construction of line to Fairbanks, from Portage Bay, $25,517,866; Ship Creek Branch, $123,635; Ship Creek Terminals, $25,000, and Matanuska coal branch, $1,766,684. The total estimate of $27,583,185 leaves about $7,500,000 from the original appropriation for rolling-stock.

By and large, the route selected is favorable for railroad building. On the main line there are two tunnels, one 13,000 feet long and the other about 5,000 feet. These will cost $1,722,100. The bridges are constructed of both wood and steel.

LAYING RAILS ON UNCLE SAM S FIRST STATE-BUILT, OWNED, AND OPERATED LINE TO BE USED FOR GENERAL PURPOSES. CONGRESS HAS APPROPRIATED $35,000,000 FOR THE PROJECT, WHICH GIVES WORK TO 5,000 MEN IN SEASON

Construction estimates run from $20,000 per mile to $110,157. The estimated average mile cost of construction on the main line is in the neighborhood of $54,000.

The bridge over the Tanana River is to cost $615,635. There are 28 miles from Kern Creek to Potter Creek which will, it is estimated, run higher than $110,000 per mile.

It is estimated that about $75,000 represents the average total investment

EXCURSION CROWDS SUCH AS THESE ARE QUITE COMMON AT NENANA, ALASKA ON ACCOUNT OF ITS SPLENDID LOCATION ON THE WATER FRONT THE THRIVING LITTLE CITY HAS BECOME POPULAR AS A RESORT FOR RESIDENTS OF THE INTERIOR

for each of the 254,000 miles of railway in the United States.

The opening of the coal-beds, while officially recognized as important for the needs of the navy, is hailed with joy by the leaders of industry in Alaska and by the people of the Pacific coast States. It is a commentary upon our methods that coal has actually to be imported in Alaska —a real example of carrying coals to Newcastle.

California, practically destitute of coal, is used to paying as high as $10 to $12 per ton. Alaska coal can be sold at San Francisco under $5 per ton, and experts agree that it is good coal.

Of course the people of Fairbanks are dancing with glee at the prospect of the entrance of the government railroad. It comes to them like a messenger of deliverance. Their town, located only about 100 miles east of the geographical center of Alaska, was founded in the summer of 1904, as a placer mining-camp. Many men have won big fortunes there, and some have come away poorer than when they entered.

The chief industry now is quartz mining. The population is 2,500.

Until recently the nearest town to Fairbanks was 360 miles off. In summer Fairbanks is reached by a circuitous stage trail leading from St. Michael, 1,100 miles by river after the long ocean voyage. The tourist route in the winter is *via* Skagway and requires three weeks of travel.

The town has seen fire, earthquake, and flood. The prices there are about twice what they are in the States, but wages are also double. The placer mining that is done covers only about 5 months of summer.

However, Fairbanks is one of the liveliest, most joyful, whole-souled, determined towns on the map of the continent. The people there seem prosperous and contented. They are sure that with the coming of the railroad their town is to become the metropolis of all Alaska and a perfect El Dorado.

They point to the surrounding hundreds of thousands of square miles of wilderness, and say mysteriously:

"Wait until all that is opened and you will see shiploads of treasure coming here over thousands of miles of river and railroad; and you will see located here steel mills, great ore-reduction plants, mighty factories and great markets. Keep your eye on Fairbanks!"

Through many vicissitudes the courage of the Fairbankers has never run low. They have built good homes, fine churches, the best schools in the territory, telephone and telegraph systems, electric plant, hospital and a substantial-looking business section.

Weird Polar Days.

Late in December they have only two and a half hours of sunlight, and at noon the rays of the sun are horizontal. On cloudy days the colors of the sunrise merge into those of the sunset.

There is always a long twilight; and on the shortest day there are traces of daylight almost from nine until three. By May 1 the daylight is perpetual. For three months of the year there is no night, and the people go to bed in darkened rooms.

For six months in winter the temperature is below zero, dipping now and then to from 30 to 80 degrees below. As for the climate—well, that's another story.

It is more comfortable than the climate of Boston. There is no wind, no dampness. The dry, still air is so charged with electricity that two men meeting each other and exchanging the salutation of a handshake spark like live wires.

The people wear the same quality and weight of clothing all winter as we do in the northern States, except that a fur coat is often worn, making one perfectly at ease.

The winter nights are beautiful. Over the silent sky shoot the brilliant green and red streamers of the aurora. The whole stretch of country is molded in ivory white, immaculate and superb.

It is in the winter that the people enjoy themselves most completely. They sail their ice-boats on the rivers, ski over the hills, skate and sleigh

Social activities of every description are indulged. There is a wholesome culture in this little city that is said to be without a parallel in any town of the United States, and life there is just as opposite to the popular notions of rough-and-tumble border irresponsibility as can be imagined.

Bursting of Summer.

Within a fortnight after the snow has vanished the summer sun makes the earth burst with the glory of flowers and garden vegetables; the trees are in full leaf within a week and the hills are blazing with the red of fireweed and wild roses. Wild flowers of great size and wonderful coloring abound in the woods, and there are birds of magnificent plumage and glorious song.

Fairbanks is located near to four great rivers, navigable for more than 5,000 miles, for from four to five months of the year. It is the metropolis of our frontier.

All Alaska is rejoicing over the prospect of the government railroad.

Not only is it looked upon as a means of obtaining transportation for the products of the soil and waters and an avenue for the entrance of supply, including cheap local fuel, but it is regarded as the first step of the government toward a comprehensive plan of unlocking the conserved territories to the industry and investment of the hardy fortune-hunters and nation-builders.

In that wonderful northland the white men are saying: "Uncle Sam is hoisting the flag for a land rush that will startle the world."

PAINTING THE FREIGHT-CAR BY AIR.

IT TAKES ONLY FOUR MINUTES TO PAINT A BOX-CAR WHEN A SPRAYER IS USED INSTEAD OF A BRUSH, AND COMPRESSED AIR SUPPLIES THE MOTIVE POWER

Photo by Press Illustrating Service.

THE RAILWAY MAN'S FIVE-FOOT SHELF.

RAILROAD men interested in collecting a library bearing on their life-work will be grateful to William J. Cunningham, Hill Professor of Transportation of Harvard University, for compiling the subjoined list of railroad publications. Professor Cunningham writes the *Santa Fe Employees' Magazine*, in which the list originally appeared:

I am very glad indeed to submit a selected list of books on railroad subjects. The difficulty in formulating a list of this kind is not so much in what to include as in what to exclude. Necessarily some books of much merit are omitted. The absence of these publications from my list does not mean that they are not worthy of study, but a list which would include everything of value would be too long. Under the general headings of

ORGANIZATION AND ADMINISTRATION

I should include the following:

A. T. Hadley: "Railroad Transportation;" Putnams, 1885.

W. M. Acworth: "Elements of Railway Economics;" Clarendon Press, 1905.

A. M. Sakolski: "American Railway Economics;" Macmillan, 1913.

S. O. Dunn: "American Transportation Question;" Appleton, 1912.

S. O. Dunn: "Government Ownership of Railways;" Appleton, 1913.

E. R. Johnson: "American Railway Transportation;" Appleton, 1910.

W. Z. Ripley: "Railway Problems;" Ginn, 1907 (revised 1913).

Ray Morris: "Railroad Administration;" Appleton, 1910.

M. L. Byers: "Economics of Railway Operation;" *Engineering News*, 1908.

J. A. Droege: "Freight Terminals and Trains;" McGraw-Hill, 1912.

J. A. Droege: "Passenger Terminals and Trains;" McGraw-Hill (in press).

American Railway Association, "Rule Book," 1915.

Proceedings of the American Railway Association.

Hadley's book, as you know, is a classic, and, while somewhat out of date, no student of railroading should be unfamiliar with its contents. The books by Acworth and Sakolski treat the subjects from the theoretical and economic view-point. The man in active service who desires detailed knowledge of a practical nature will find it in the books by Morris, Byers, and Droege. Under

MAINTENANCE AND CONSTRUCTION

the following books are suggested:

"American Railway Engineering Association Manual of Recommended Practise."

"Proceedings" and "Bulletins" of American Railway Engineering Association

W. G. Raymond: "Elements of Railroad Engineering;" Wiley, 1911.

W. L. Webb: "Economics of Railroad Construction;" Wiley, 1912.

A. M. Wellington: "Economics of Railway Location;" Wiley, 1887.

W. C. Willard: "Maintenance of Way and Structures;" McGraw-Hill, 1915.

I recommend particularly the books of Raymond and Willard. Wellington's book is a classic in its field and, although old, should be read by every student of railroading. The following refer to

MOTIVE-POWER AND ROLLING-STOCK

G. R. Henderson: "Cost of Locomotive Operation;" *Railway Gazette*, 1906.

A. J. Wood: "Locomotive Operation and Train-Control;" McGraw-Hill, 1915.

"Proceedings of Master Car-Builders' Association"

"Proceedings of Master Mechanics' Association"

"Proceedings of Traveling Engineers' Association."

"Proceedings of International Railway Fuel Association"

Henderson's book is now some years old and the figures are somewhat out of date, but it will, however, justify careful reading. Wood's "Locomotive Operation and Train-Control" has but recently been issued. It is somewhat technical, but it is recommended because there are very few books on motive-power which are written in non technical language. Under

TRAFFIC

I suggest the following three books, all of which are good.

W. Z. Ripley: "Railroads—Rates and Regulation;" Longmans, 1912

L. G. McPherson: "Railroad Freight-Rates;" Holt, 1909

Johnson and Huebner: "Railroad Traffic and Rates," Appleton, 1910

McPherson's possibly should be named first because it deals with the A B C of freight-rates and its perusal will make clear the more theoretical discussions by Ripley. Under

ACCOUNTING

I should suggest two books, namely:

W. E. Hooper "Railroad Accounting;" Appleton, 1914.

J. Shirley Eaton: "Handbook of Railroad Expenses;" McGraw-Hill, 1913

Eaton's is a reproduction of the Interstate Commerce Commission's classification, with illuminating comments. Hooper deals more with the philosophy and details of accounting. Under

FINANCIAL

Ripley: "Railroads—Finance and Organization;" Longmans, 1915.

This is, I think, the most comprehensive and understandable publication on this subject. With it, however, it would be well for the student to read

E. S. Meade: "Corporation Finance;" Appleton, 1912.

And for

RECEIVERSHIPS AND REORGANIZATION

there is nothing better than:

Stuart Daggett: "Railroad Reorganization;" Houghton-Mifflin, 1908.

Following is a list of some of the more important books dealing with the

HISTORICAL SIDE OF TRANSPORTATION

C. F. Adams: "A Chapter of Erie and Other Essays," Field, Osgood & Co., 1869.

C. F. Adams: "Railroads, Their Origin and Problems;" Putnams, 1887

C. F. Adams: "Notes of Railroad Accidents;" Putnams, 1879

W. H. Brown: "History of First Locomotives in America;" Appleton, 1871

W. B. Wilson: "History of Pennsylvania Railroads;" Coates, 1899.

E. V. Smalley: "History of Northern Pacific Railway"

George Bliss: "Historical Memoir of Western Railroads," published in Springfield in 1863.

H. K. White: "History of Union Pacific," University of Chicago, 1895

J. P. Davis: "The Union Pacific Railway;" Griggs, 1894.

J. J. Hill: "Highways of Progress;" Doubleday-Page, 1907.

H. G. Pearson: "An American Railroad-Builder," J. M. Forbes; Houghton-Mifflin, 1911.

E. H. Mott: "Between Ocean and Lakes—Story of the Erie;" 1899.

F. A. Talbot: "Railway Conquest of the World;" Lippincott, 1911.

E. Hungerford: "The Modern Railroad;" McClurg, 1911

S. Dunbar "History of Travel in America;" Bobbs-Merrill, 1915

F. H. Spearman: "Strategy of Great Railroads," Scribners, 1904.

C. F. Carter: "When Railroads Were New;" Holt, 1909.

The titles speak for themselves. It is rather difficult to pick out any of them to give them preference over the others

Here is a list which shows a few of the best books dealing with

BRITISH, FRENCH, AND GERMAN RAILWAYS

George Findlay: "Working and Management of British Railways;" Whitaker, 1890.

H. M. Ross: "British Railways;" Arnold, 1904.

W. J. Gordon: "Our Home Railways" (British); Warne & Co., 1910

H. R. Wilson: "Safety of British Railways;" Whitaker, 1909.

E. B. Ivatts: "Railway Management at Stations" (British); McCorquodale, 1910.

C. B. Byles: "Principles of Railway Signaling;" *Railway Gazette*, London, 1910.

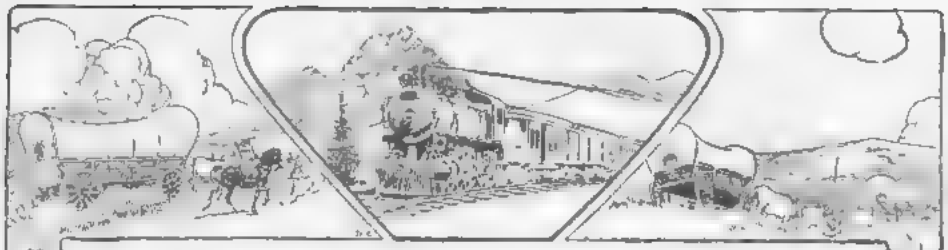
V. Pendred: "The Railway Locomotive" (British); VanNostrand, *Railway Gazette*, London, 1912.

C. L. Boag "Manual of Railway Statistics" (British); *Railway Gazette*, London, 1912.

C. P. Mossop: "Railway Operating Statistics" (British); *Railway Gazette*, London, 1911.

Monkswell: "French Railways;" Smith-Elder, London, 1911.

"*Das Deutsche Eisenbahnwesen der Gegenwart*" (English edition, "Modern Railway Working," 2 vols.); series of articles by a German railway official; published by Reimer Hobbing, Berlin, 1911.



IT TOPS THEM ALL.

BY A. W. MUNKITTRICK.

I'M a railroad man, and I know the same—
I know it from A to Z;
And an adept, too, at the fighting game,
For it means the same to me.
And I'm proud to be just a Yankee son,
And never will shirk or fall
If I'm called to fight with a new-style gun
For the flag that tops them all.

OH, a flag to me is an old-time chum,
And has served me day and night.
Whether red or green it's the total sum
Of the sign that guides me right.
If it's one of white, then I may proceed,
Should I hear my country's call.
As the drums loud beat I shall fight and bleed
For the flag that tops them all.

AND the railroad boys are as true as steel;
They have pep that helps the slam.
They have grit galore that they don't conceal,
When they fight for Uncle Sam.
And the dirt and grime of a hard work-day
Is never to them like gall;
As they leave the rails and enter the fray
For the flag that tops them all.

IN these troublous days when our souls rebel
At the insults oft received:
Shall our railroad boys facing shot and shell
Stand pat for the sore aggrieved?
They will face the smoke and the cannon's roar
As the dogs of war enthrall.
They will face the worst when they're fighting for
The flag that tops them all.

Tales from the Knights of the Railroad Round-Table

A RUNAWAY-BALLOON "CONSIST."

BY CHARLES S. GIVEN.

I HAVE had quite a number of queer experiences during my more than forty years as a locomotive engineer, but what I ran up against one afternoon about twenty years ago is a little out of the ordinary; at least, I never heard of anything like it (said a New England old-timer).

It happened on the Shore Line, where I put in many years in my younger days.

The Shore Line parallels the coast for about sixty miles. In places we run close to the ocean; in others we'd be from one to three miles inland

There's some pretty rugged scenery alongshore, and there used to be an artist chap who visited the section around Villers every summer. He was well fixed, and could have 'most anything he wanted.

There's a group of small islands huddled close together off Cape Rowley that he wanted to paint from an elevated position. What did he do but bring along a small balloon one season, with a man to manage it!

He fixed up his inflating apparatus on the cape, and for two or three weeks he would go up every day when the wind wasn't blowing too strong and paint. Seems there was a boulder there that was smaller round at the base than up above, and he had his two-hundred-foot cable tied round that.

After the artist had gone up and got to work, his assistant was in the habit of going down on to the wharf, fishing, but was always within call.

On this particular day it was a little more windy than common. The balloon, swaying a little and tugging at the cable, had chafed the cable against a rough surface on the boulder, the strands had parted one by one, and the first thing the artist knew, the balloon was free and, rising rapidly, sailed inland before the wind

His assistant could not help him, and the artist completely lost his head. He was so frightened, he said afterward, that he forgot to pull the valve, so the balloon would collapse and descend.

I was running along in that vicinity about that time, and as I had only eighteen cars, running local freight, and was on short time against No. 14 to Barclay, I was hitting her up about thirty miles an hour.

In about five minutes after that balloon struck out for itself, I spied it about half a mile off to my right. We were a good deal higher up than the cape, and the artist had come to his senses in the meantime, and had let some of the gas out, so that he was about a hundred feet above the ground. But as he was drifting right toward the bald side of Riggs Mountain, not over a quarter of a mile north of the track, seems he wanted to get up higher about that time worse than he wanted to get down lower, because he didn't want to be swept against that rocky bluff

He had let out his anchor-rope, but there wasn't a thing, not even a small tree, for it to catch in along there, and he was still a little too high up for the anchor to reach the ground.

I had seen balloons before; but, nevertheless, I kept a sharp watch of it as it drifted toward the track. The fireboy and head man crossed over and viewed it from my gangway.

It didn't take long for it to get pretty close, and in a few minutes it swept across the right-of-way almost above our heads.

Just about that time we noticed the anchor-rope, and the anchor dangling at the end, just above the ground. We were running over the fill at Jones's Creek, and there was no fence or telegraph wires above the road-bed for it to catch in.

We all dodged to the other side of the cab, as it looked as if the anchor would hit us about amidship; but a violent yank out front put us wise that it had caught at the head end. All eyes to the front in two seconds, and there it was, firmly caught on the left-hand pilot-brace.

After two or three hard slats, the engine settled down and ran steady. We looked for the balloon. It was trailing a little to one side, but swung mighty quick in line with the train. We were traveling so fast that the basket was right out toward us, on a line between us and the gas-bag. In fact, we'd almost tipped the blame thing over.

The fireboy forgot to shovel coal. As for me, I don't believe I saw ten feet of the track ahead in the next three miles. As we yanked that balloon along, it came down to within thirty or forty feet of the tops of the freight-cars.

The artist came near being pitched out of the basket when the rope brought up, but he managed to hold on. We could see him waving one arm frantically, but whether he wanted us to stop or not we couldn't make out. We knew he was yelling at us, but we couldn't hear a word he said.

The conductor came racing over the car-tops and stopped beside the head man, right under where the balloon was We would all have rubbered for some time to come, no doubt, if we hadn't been brought to our senses when we ran over the short bridge a mile outside of Barclay.

No matter how much the artist wanted to stop, I could not do it down the line, as I was stealing a few minutes on our clearance on No. 14; but when we crossed the bridge we got busy mighty quick. I shut off and whistled for brakes. In order to stop at the west switch, I had to hoss her over on the last end of it.

While we were stopped at the switch, the balloon was blown round even with the pilot. As we pulled into the siding the anchor-rope fouled the main line just enough so when No. 14 pulled down she couldn't get by without her stack hitting it As the crew did not want to lose their stack, and didn't want to wait for the balloon to be deflated, we got a lot of fellows together and tried to pull the balloon down. There couldn't enough of us get hold of the rope to accomplish this.

As the artist told the boys, it would take about ten minutes or more to let the gas out enough so the balloon would come down. The boys on No. 14 were pretty mad, but they were still madder when the artist said that the valve was stuck and he couldn't open it anyway.

Consequence was we backed onto the main line, then pulled ahead to clear the switch, while No. 14 backed up and came down through the siding and pulled out.

We were puzzled what to do. We couldn't pull the balloon down, and we didn't want to cut the rope and put the artist in danger by letting the balloon loose. We had some switching to do, but I didn't want to try it with that balloon tied to us.

Then I thought of the overhead bridge about a mile east. I sprung it on the boys, and without paying any attention to the objections of the artist chap, took the crew aboard, cut off the engine, and pulled out for the bridge.

When we got almost to it I slowed down, dropped the crew off at the bridge, told them to mount the bank, and get ready to pile a lot of rocks in the basket or get in themselves. They objected to this, so we compromised, and they agreed to pile in the rocks

I put the engine's nose slowly under the bridge, and as the rope brought up underneath the structure I went ahead very slow, thus pulling the balloon down to the top of the cut.

Then the artist hopped out. He was the most tickled man you ever saw. It didn't take long to gather enough rocks to weight the basket so that a couple more balloons couldn't lift it; but to make matters sure, we wound that rope round a telegraph-pole and hooked a fluke of the anchor against it.

Then we backed up to our train, leaving the artist with the balloon, and agreeing to send a man from Barclay after his assistant. When we had done our work, we coupled up and pulled out, half an hour late.

The artist was sitting on the bridge-railing, smoking a pipe, when we pulled past the spot. When we returned next day we found that the balloon had been removed.

The artist never went up in it again. He'd lost his nerve.

TALES FROM THE LEFT-HAND SIDE.

BY OWEN HUGH O'NEIL.

"THEN gimme, just gimme the rooster in mine, that stays when his engine goes down," sang the call-boy — "that guides her alone, through the rain an' the dark, above where the drivers go roun'; close up where the gates of St. Peter swing back, an' stays when his engine goes down."

"That reminds me of Moses Snow," commented the Boomer Tallow. "He's a master mechanic out West—at least he was, the last I heard of him. He was strong on that old-fashioned sentiment stuff, particularly this game of 'fling the reverse and give her the sand, and stay when your engine goes down.'

"If you applied for a job, the first thing he wanted to know was what you would do if you saw you were going to plunge into a wreck or a washout, and if you said you'd jump, that finished it—unless he was awfully short of men.

"'Never jump, boys!' he'd say. 'Never jump! Show 'em what railroad men are made of — pure grit that's the stuff! Firemen, never desert your engineers; it's bad manners. Enginemen, never leave your engines; it's cowardly!'

"He seemed to feel it as a personal humiliation when anybody did happen to jump, and I never heard that anybody joined the Suicide Club on his recommendation.

"Old Mose was out riding over the line one day, and rode back on our engine that evening.

"The Juniata and Northwestern road ran right alongside of our line for several miles, then crossed our tracks and ran west. Where the two roads ran parallel the tracks were quite close together, and we had to look sharp sometimes to be certain whether a train was on our track or the Juniata line.

"Old Mose was dozing in the cab that evening, and when he woke up he didn't know just where we were at. We happened to be on the 'Parallel Stretch,' as the boys called it, and a passenger-train on the J. and N.W. was approaching from the opposite direction at top speed, only a few hundred yards away. Our heroic master mechanic thought that it was on our track, and that we were in for a head-on.

"'Great Ezekiel!' he yelled. 'We're doomed! We're damned!'

"He didn't stop to dismount *via* the gangway; he went straight through the window. The way he landed, I thought sure he'd broken his neck, but he rolled over and sat up, and I never saw anything in my life as silly as his face when he saw the Juniata passenger rolling by.

"Our engineer slammed on the quick-action, and waited for Snow to come limping up.

"'Now, you old stick-when-your-engine-goes-down,' said the engineer, 'what did you go and jump for? Come, now, none of your stutterings and stammerings and apologizings—what did you go and jump for?'

"'Jump?" answered the M. M., with an effort to seem surprised and indignant. 'Why, you're mistaken, Henry! I didn't jump; I fell out!'

"'Fell out!' roared back my noble hoghead. 'Now, Moses, this won't do! You grit-and-cinders hero, you—you brass Buddha with the fiery eyes and cast-iron teeth, you shining example of bravery in the face of death and disaster, this won't do!

"'You're the guy that tells *us* to stick in the cab and go to Tophet for the sake of an antiquated batch of boiler-makers' activity, are you? Well, I undertake to see that this story gets spread from Seattle to San Diego, Moses! If I have to carry it myself by word of mouth, so be it, and I don't ask you to give me a pass to ride on while I'm telling it, either.'

"Well, Old Mose begged and coaxed and bribed him to keep quiet about it, and finally we agreed to say nothing to the rest of the boys, providing he never again opened his mouth to deliver lectures or proverbs on the subject of staying when your engine goes down.

"Henry and I had each twenty brownies against us, but Snow scratched them off the next day, and we smoked at his expense for the next six months."

* * * * *

"So you know Moses Snow?" said the Old-Timer. "He was quite a young man when I knew him. He was on that same Juniata line that you mentioned, at that time. I suppose it isn't much of a road now, and it was considerably less then; but Snow was proud of it, and wanted everybody else to be proud of it.

"Good power was his hobby then. He devised a reward system to encourage the engineman to take the best possible care of their engines, and everything was bright and spick and span. Then he got permission from headquarters to allow the engineers to name their engines, and pretty soon the Juniata began to look like a débutantes' directory, what with engines scooting around the yards with their sides painted in gilt, Flossie King, Myrtle B. Stetson, Mabel Maguire, and the like.

"The old engineers named their engines for their daughters in high school; the young ones, for the daughters in the

cradle or the kindergarten; the honeymooners, for their brides; and the unmarried ones naturally named their engines for their best girls.

"In the last class was one Harvey Howe. His engine pranced around the yards bearing the name of Maude K. Fuller.

"One day a snappy young lady came down and wanted to see the master mechanic. Snow acknowledged identity, and wanted to know how he could have the honor of serving her.

"'You can take my name off that engine,' she said sharply. 'It's Maude K. Fuller, and I don't use cast-iron calling-cards.'

"'Why, you see,' said Snow, 'I haven't anything to do with that, Miss Fuller. Mr. Howe had that put on.'

"'Well, you take it off!' she retorted. 'I'm not going to have it said that Maude K. Fuller had her apron knocked off in last week's collision, Maude K. Fuller is having her jacket patched, Maude K. Fuller is in the back-shop for the purpose of having her petticoat-pipe replaced, Maude K. Fuller blew out a cylinder-head or smashed somebody's tail-lights! You take it off, or Maude K. Fuller will knock you lop-sided, that's what!'

"She looked quite capable of doing it, and I am glad to say that Snow was polite enough to oblige her forthwith."

* * * * *

"Makes me think of a little episode in Oklahoma," said the Traveling Fireman. "I was firing passenger, and my engineer was a full-blooded Chickasaw Indian. He was strikingly handsome, having all the most attractive features of his race, though not the most prominent. In fact, you could scarcely have told that he was an Indian

"He got acquainted with a girl at a little town near Enid, and she used to come down to the station every day to talk to him. It wasn't long till she was head over heels in love, and willing as *Barkis*.

"One day he was sick and unable to work, and the girl, waiting at the station, was disappointed when she saw a new man in the cab.

"'Where's Mr. Wolf?' she called to me.

"'Mr. Who?'

"'Mr. Wolf.'

"'You've got me,' I answered. 'I guess I don't know who you mean.'

"'Why, your regular engineer—Mr. Robert T. Wolf.'

"'Oh,' I said, 'I know now. You mean Bob-Tailed Coyote.'

"'What?'

"'Bob-Tailed Coyote. That's his name on the pay-roll. I suppose he calls it Bob T. Wolf when he's in society. Funny names these Chickasaws have, eh? I know a young squaw—'

"But she covered her face with her two hands and backed away—and she never did come back. You couldn't get that girl to agree with the immortal bard that there's nothing in a name; no, sir! Mr. Robert T. Wolf was a mighty fine swain, but when it came to going through life as 'Mrs. Bob-Tailed Coyote,' why, it was too much even for a prairie flower of Oklahoma!"

* * * * *

"Well, I stayed once, when the engine went down," said the fireman on the local freight. "But it was because I couldn't get away. We were in a cut, and there wasn't any place to jump, or I'd have jumped. I've done it on several occasions.

"But I swear to goodness I never unloaded as rapidly as our conductor and head brakeman did not long ago when we stripped our oil-burner.

"The engine was out of tram, and her general condition wasn't very good. She ought not to have been in use, and wouldn't, only for the shortage of power. Still everything was going all right, and the con and head shack were joy-riding up on my side of the cab, when, *bam!* went the rods on both sides.

"It all happened so quick that we

could hardly realize what was doing. The engine was stripped as clean as a whistle; the blow-off cock was knocked off; the water all ran out of the water-glass, and the brakeman yelled '*Wooh!* She's going to blow up!'

"I never knew that a human being could move as fast as he did, and the con was a close second. They were on the ground and half-way across an acre field before I had the oil shut off

"When they quit running long enough to see that she hadn't blown up, the con yelled back to ask what was the matter, but he wouldn't come near the engine any more. He went back to the nearest station and telegraphed for another engine, and when it came he rode the rest of the way in the caboose.

"In fact, he's been staying there ever since. Guess he's got the opinion that a little side-rod is a dangerous thing."

THE GREEN FLAG OUT FOR CUPID.

BY FRANK KAVANAUGH.

ONE of Bill's traits is common with railroad men. He wanted to marry and be a chicken farmer (said the Railroad Y. M. C. A. secretary). But, despite a physiognomy that was passable, some cash in the bank, and a run that brought in a good income, he was so bashful he couldn't read the lingerie advertisements in the newspapers with any degree of comfort.

On Bill's outward run the road dipped into a valley. Right in the center of this valley was a cottage with a wire fence around it that told of a chicken-farm.

To Bill's goggled eyes this was as near Paradise as one could expect on earth. There wasn't a "WR" post within a mile, but Bill never failed to greet the chickens, the woman, and the child of the place with two long and two short whistles as he passed. And the little girl would wave back.

One day Bill's train was late, and he worked steam all the way down into the valley to make a run for the hill beyond. Something happened. It may have been a defective flange or a broken angle-bar.

At any rate, the big engine buried its nose in the ground within fifty feet of the little chicken-farm, and when Bill came to he was in a bed in one of the rooms of the cottage.

After a day or two, when he was feeling better, he became acquainted with the little girl. He told her stories of the rail, and she told him the names of the chickens and lots of other childish confidences. The sweet-faced woman came in often and looked at them, and smiled.

Then Bill recovered and left, the man of the house flagging the passenger that stopped at the farm for him. When Bill began his run again, the little girl was sure to have a toy or a book or a box of candy thrown off to her every time the train passed.

One day, while in a siding at a station beyond the valley, Bill met the man of the house.

"Why not come and visit us?" the man asked. "My little niece is so fond of you."

"Your niece!" Bill exclaimed. "I thought that was your daughter."

"No," replied the man. "I stay with my widowed sister so they may have protection."

The next box of candy dropped contained a very diplomatic note, the first of a long series sent with the candy. And then, one Sunday, Bill visited the chicken ranch in the valley.

But he could see no answer in the woman's greeting. Evidently his letters had

not been received in the sense he meant them.

In the afternoon the little girl took him to her playhouse. Among her other treasures, there was the packet of letters he had sent with the candy and toys. And they were unopened!

"I'm keeping them until I am old enough to read them myself," the maiden announced.

But Bill, too bashful to press his suit personally, instructed her differently. She was to take the letters to her mother, let her read them, and then ask:

"Wouldn't you like to make Bill my papa?"

If she said "Yes," the little girl was to wave a green flag when he passed next time, and if it was "No" she said, a red flag was to be waved. Bill had secured the two flags from the ruins of his engine.

But the next day when Bill passed the little girl waved two flags. It was a poser for Bill!

On the following trip out, at the cut near the chicken-farm, the engineer saw the little girl holding toward him a circlet of vines and flowers. He remembered then telling her how he caught train-orders at stations where there was no stop by putting his arm through a hoop. Likewise he caught this hoop and found the "order" attached. It was printed in pencil, and read:

> Mama said "Yes," but I forgot which flag.

Bill visited the farm the next Sunday, and overcame his bashfulness for a time at least.

Two months of the chicken-farm, however, tired him, and he is still on the red-ball run, while the little girl and her mother occupy a cottage in town. They visit the chicken-farm in the summer and play at the game.

For, as I said before, railroad men dream of a chicken-farm all their lives and die in harness.

THE TAIL OF THE OLD COMET.

BY FREDERICK A. WADSWORTH.

GUESS it's my turn to swap a yarn about running-experience, eh? (said the new diamond-juggler). Well, I guess I can tell one to match the best of them, and true, too; that is, mostly true. Being a stranger to these parts, you may have difficulty in believing me; but it's as true as any honest fireman's story usually is.

Maybe some of you fellows know how the M. and R. crosses the Jersey meadows through millions of prosperous family homes, homes and families of the old-fashioned sort of, say, a thousand grandchildren. If you've never met the breed, just come out to visit our meadows roundhouse, and before you get within three miles of it these little pests will introduce themselves without any formal ceremonies.

However, on the night of the story I'm going to tell you, every mosquito slept peacefully in the oozy salt mud, for it was one of those dark and stormy kinds in midwinter that you read about.

The main line of the M. and R. uses only two tracks where it crosses the meadows, but there are four altogether. The ones on either side of the two middle tracks are used as freight storage, so that for a mile or so it's the same as running through an open cut, with strings of freights for banks.

Well, on the night I'm telling you about, we had all those freights to pass, which was perfectly usual; but we also

had one of the darkest nights a going and a fifty-mile gale of wind that would freeze the alcohol in a thermometer.

Old Goggle-Bill is the man that pulls the throttle on the engine I feed with coal. We named him that because he has a nose like a duck's bill, and wears goggles as though he were the engineer of the fastest thing with wheels and cylinders.

Goggle-Bill ran some good trains in his day before his eyes began to go back on him; yet he still takes pride in our humble job of hauling a general-accommodation work-train anywhere on the meadows section. Just let any one say a word against our old eight-wheeler, even if it is of the vintage of '91, and you'll hear old Goggle-Bill fly up in the air.

Our old loco is so out of date the boys all call her the Comet; but with Bill behind the throttle, not to mention me with a scoop at the firedoor, we can get considerable life out of her yet. You see, Bill is one of the old-school engineers, and wouldn't be at home on anything but an old-school engine.

We'd been out on a run that took us over to the land side of the meadows, and a sleepy gang of sectionmen had all climbed aboard the two work-cars, ready to start back to Jersey City. Goggle-Bill shouted back at me—you know old 166 is a camel-back—to go out and clean up the headlight a bit, for it didn't seem to be burning properly.

I did, and whether I left a piece of waste inside that lamp when I got through or not has always been a question. At any rate, something went wrong, for after we'd got just about in the middle of that string of loaded freights we came to a stop, and Goggle-Bill shouted once more at me to fix the headlight for him, because the blamed thing was giving no light at all now, and it was as dark as pitch.

A blustering cold wind whistled by like the deuce as I made my way out front, through Bill's cab and along the running-board to the smoke-box. Bill gave me a kind of an ugly face as I glanced at him going by, as though he'd like to say something strong about a poor boob that could not fix a headlight so it would burn right for a ten-mile run.

The whole inside of that lamp showed one mass of flame when I got there.

While I stood there wondering just what to do, my eyes fell upon a clearly discernible red card tacked to the door of one of the cars on the next track. I could see the word "Inflammable," and knew that in smaller letters underneath were the words, "*Keep Lights and Fires Away.*"

Glancing along the line, I could see more of these red cards, and knew we were in the midst of a shipment of munitions from one of the Jersey powder-mills. Say, a mile row of tombstones could not look more ominous!

Looking up from my unpleasant discovery of the red tags, there was Goggle-Bill on the other side of the engine looking at me. We both looked at each other, not saying anything, but kinda scared; for if that old lamp should take a notion to explode, it might mean Kingdom Come for the two of us and the sleepy gang back in the two cars.

Of course Inflammable might mean only gasoline, or tar, or something like that; but it was hardly probable, for the M. and R. had been shipping shells and powder for the Allies as fast as the trains could carry it.

Maybe you fellows don't believe two quarts of oil, with a good strong wind for a draft, would make much of a blaze! If you don't, you should have seen that lamp after she got so hot the seams in her oil-reservoir melted.

That oil ran out over the stand and caught fire then down one side of the hot smoke-box, still burning, while the wind licked the flames far out over the clearance line and dangerously near the eaves of that red-tagged car on the next track.

Believe me, in my imagination I could see a repetition of shells flying and carloads of powder going up in the air just

like what happened in Kingsland not so long ago. I could picture Goggle-Bill and me soaring in the upper regions propelled by a ton or so of dynamite from the nearest car.

I'm not ashamed to say I was scared and excited, so excited that I went back to my cab and brought a pail of water to throw on the blaze. This, of course, made matters worse, and the flames now all but touched the neighboring car.

Perhaps you want to know why we didn't pull out of the way of that munition-train? Well, for one thing, we may have forgotten all about moving just at that time; and then, for another thing, those cars stretched out for a half-mile in either direction, anyway.

All this happened in less time almost than I'm taking to tell it to you.

Bill saw the effect of the water, and he knew before I threw it on that it would do more harm than good, but I did not know it at the time, and he didn't have time to tell me. He calmly sent me back for more water, while I wondered what he was thinking of to try the experiment again after the first performance.

By the time I got back, however, he had the sand-box cover off, and was throwing sand in double handfuls on that blazing lamp. This job of throwing sand he gave to me, while he took the water-bucket, and with his drinking-cup doused the part of the freight-car that was in line with the blaze. The wind turned each cupful of water into spray and thoroughly wet the side of that car, otherwise I might not be here to tell the tale.

For ten hour-long minutes we kept up this proceeding until that oil just naturally burned itself out. Not a soul in the cars behind had seen a thing of our little excitement, for we didn't blow the whistle to arouse them; that's another thing we forgot in the excitement.

That bunch of sectionmen did not know till we got to the end of the run that we were delayed for fifteen minutes. The boss of the gang had gone to sleep soon after we started for the roundhouse, and even if he had noticed the stop, he would have put it down as dyspepsia of old Comet's slide-valve.

The boys all call our engine the Comet after Stevenson's famous Comet of 1863, but nobody except Goggle-Bill and I saw the tail of that Comet that night.

When we put our engine up and were walking away together, Goggle-Bill turned to me and said:

"Say, I'm an old fogy and all that, and I've opposed this new electric headlight law; but after to-night I'm cured. I'm going to try to get an electric to take the place of that piece of melted junk.

"And say! I hope no poor German spy is accused of throwing water on munition-trains when they discover that car out there on the meadows. Maybe you and I had better keep mum about the whole business; eh?"

BILLY SUNDAY SAYS:

SOME people believe they've got a Pullman ticket to heaven and have asked the porter to wake them when the train is pulling into the yards of the New Jerusalem. But I tell you they're going to get a hot-box on the way!

OLD TIMES IN MORSE SHOPS—III.*

About the Old-Fashioned "Wheatstone," One of the Early Automatics to Give Morsemen Concern for the Future of Manual Operation.

DEVICE SENT 90,000 WORDS IN HALF-HOUR.

But Oh, What a Business When a High Wind or a Sand-Storm Crossed the Wires!—Messages Would Be Lost or Mixed by the Gross, and It Would Take the Morse Ops Hours to Straighten Out the Tangle —Ups and Downs of "Elliot Leslie Hall."

BY "J. E. M.,"

Author of "Old Times on El Paso Southwestern," "Old Times on the Great Northern," "Old Times on the Galveston, Houston and San Antonio," "Old Times on the West Shore," etc.

IN my two previous articles I have endeavored to tell of some of the old-time telegraph offices, the officials in charge, and the operators employed. I thought when I had completed the second article that the field had been practically covered. But upon looking back, I find that there are quite a number of old-time telegraph centers scattered throughout the country, which once cut considerable of a figure, but which to-day are somewhat similar to a deserted mining-camp, lying like skeletons, stripped to the bones, with nothing remaining of their former glories except fond memories in the minds of the few—the very few — among those now living who had the pleasure of working in these almost forgotten places.

I have told of Chicago, St. Louis, Galveston, El Paso, Los Angeles, San Francisco, Ogden, Utah, and Helena, Montana; besides a few of the other prominent telegraphic centers. I have also spoken of Deming, New Mexico, in a general way, as the large relay point for the "Southern Overland Route" of the Western Union's Morse system of telegraphy. However, I have made only bare mention of the fact that Deming was likewise the principal repeating-point for the Western Union's "Wheatstone" system of automatic telegraphy.

Deming's Dual Distinction.

Deming was unique—it is to-day—but in the old days it was in a class by itself in the telegraph world, combining in its staff as it did the regular Morse telegraphers with the imported British subjects who made up the forces of the Wheatstone system throughout the United States.

* Part I of "Old Times in Morse Shops" appeared in February; Part II, in May. "J. E. M." has also written another paper of telegraph recollections, entitled "Old Times with Morse Men," which was published in June, 1916.—EDITOR.

Some time about the year 1880 or 1881, perhaps a year or two earlier, the Western Union Telegraph Company purchased the United States patent rights of the English Wheatstone system of telegraphy—one of the first, if not really the first, practical automatic systems of telegraph to be employed for long distances with any material degree of success.

"Wheatstone Overland Route."

The Western Union worked this system for a number of years between such points as New York and Chicago; Chicago-Kansas City; Kansas City-Deming; Deming-Los Angeles; and at times to San Francisco.

Of course, there were other points between which the Wheatstone was in operation; but I believe the route as described above was the greatest and the first, if not the only, "Wheatstone Overland Route." I believe that the system is still in operation between Kansas City and other points, though it has been largely superseded by more modern inventions, such as the Multiplex, Morkrum, and other automatic systems.

However, the Wheatstone still is, I understand, the standard means of telegraphic transmission throughout the British Isles, and has from its inception proven a fairly reliable automatic telegraph system.

There is, of course, a tape to be punched, somewhat similar to the cable tape described by Mr. McNicol's article on submarine cables in the February RAILROAD MAN'S MAGAZINE, although the method of punching differed materially.

Three-Button Punching-Machine.

Instead of a keyboard somewhat similar to that of a typewriter, which Mr. McNicol explained as being employed in punching the cable tape, a punching-machine formed part of the Wheatstone device. This punching-machine consisted of a small box, probably six inches square.

The top of this box contained three keys or knobs in a row. These keys or knobs worked a series of wheels or cogs contained in the interior of the box, which moved forward a ribbon of paper tape, punching the tape with the Morse characters. The knob or button at the right represented a dot, and punched a hole in the tape at the top; the center knob or button represented the space, and punched a hole in the center of the tape; while the third or right-hand button or key represented the dash, and punched the hole at the bottom of the ribbon.

This ribbon or tape was then placed in an automatic transmitter somewhat similar in design to the cable transmitter, and the speed turned on to suit the climatic or wire conditions. At the receiving-end another tape was fed from a reel through an apparatus resembling nothing more than the old-fashioned Morse register in use before reading by sound was adopted—and that's quite a number of years ago, when one comes to look back at it.

The Morse characters were indented on this tape, translated by a corps—usually young ladies—into regular English, and inscribed on the old-time "high-roller" Remington typewriters.

The Unenviable Mr. Hatch.

Mr. Hatch, whom I have mentioned in a previous article as being the chief operator for the Western Union at Los Angeles, was the chief in charge of the Wheatstone department at Deming. He installed the complicated system at that point, besides superintending the installation of instruments at other points where the system was placed and tried out.

I did not envy Mr. Hatch his job. The Morse and the Wheatstone departments were entirely separate in their operation—that is, they were separate in so far as the chief operators were concerned, although both were under the general direction of Mr. Sleight, who was the manager at that point.

While there was never any open hostility displayed between the two sets of telegraphers, they did not "jibe" very well. Most, if not all, of the Wheatstone men were imported from England, and their salaries were considerably lower than those of the Morse manipulators. The Morse operators at Deming received from $75 to $100 per month, while the Wheatstone men obtained salaries ranging from only $40 to $60.

The Morse men displayed considerable antagonism toward their fellow workers in the Wheatstone department, for the old bugaboo, which even to-day will not down, haunted them that automatic telegraphy would in a comparatively short time supersede the old reliable system.

The Wheatstone men were, to tell the truth, rather clannish, and held forth in their department with little or no communication with their Morse brethren, except upon purely business matters.

There are quite a number of little local "scraps" recorded in the old-time log-books of the company at Deming and other places where the two systems were employed; but, of course, these were mere ebullitions on the part of the younger element.

No Speed-Limit to Apparatus.

There was practically no limit to the speed of the Wheatstone apparatus, the speed being regulated by the attendant at the sending end to meet the weather conditions throughout the section of the country traversed by the wires over which the messages were carried. I remember one instance, the climatic conditions being perfect, when three thousand words per minute were carried for a period of thirty consecutive minutes between Kansas City and San Francisco direct.

Ninety thousand words in a half-hour is some going, isn't it, boys? You bet it is! But—

Well! That big word "but" comes in right here. After the thirty minutes of uninterrupted and perfect transmission, there occurred a short succession of those unexplained interruptions to the circuit. These interruptions would last only a fraction of a minute at a time—probably not more than a second. They would be unnoticed by a Morse receiver, but played hob with the Wheatstone.

Short as were the periods of interruption, the tape ground through the transmitters without pause and reeled out from the maw of the receivers with a hundred words lost here and a thousand lost there, and the intervening characters one unintelligible jumble, to be succeeded by probably a hundred or more messages in good shape, and then a lot more of untranslatable jargon.

If I remember rightly, it took a force of about fifteen men something like six hours, working Morse circuits, to pick up the lost strands of the Wheatstone; and even then the connecting links were so indefinite that many messages were duplicated, while some were lost forever. I believe that several law-suits resulted.

Wire Trouble the System's Bane.

These electrical disturbances, which, of course, were impossible to overcome, were the curse of the Wheatstone system. When the slightest wire trouble occurred, the loss of many messages in transmission was inevitable; and when such losses were discovered by the missing numbers on the Wheatstone tape, the corrections and filling in were always done by the operators on Morse circuits. Then we had the laugh on the "Britishers," as we called the Wheatstone machine men.

Many a time, when I was on the extra list in San Francisco and Los Angeles, have I devoutly prayed for just a few minutes of high wind, or a sand-storm in the desert, which would cross the wires, if only just for five or ten minutes. Then, probably, would come the call from the traffic chief in the operating-room:

"Five first men come in."

That meant that the five men who had

registered on the slip as present first that morning were to report to the traffic chief for duty.

We would go to work, chuckling to ourselves over the fact that the Wheatstone had again failed, and try to untangle the twisted skein of errors that were recorded on the automatic's receiving-tape. Sometimes we (the extra men) would get in as many as twelve or fifteen hours at a stretch through the failure of the Wheatstone system.

Indeed, I have known of the time when this system was completely out of commission for something like ten days or two weeks, owing to a severe storm in Kansas, when the poles were blown down, and the wires twisted and knotted and torn apart for miles.

Early Days of a War Inventor.

At that time the extra operator reaped a harvest of hard work and good pay, and made faces at the Wheatstone men who had been laid off or suspended pending the necessary repairs before their apparatus was put in working order again.

In the Wheatstone department at Los Angeles, the chief was a Mr. Wilson, an Englishman, who was brought to this country under contract with the Western Union, and who was a past grand master of Wheatstone operation in the old country. Mr. Wilson made a fine record here, both as an official and as a gentleman. He was popular alike with the Morse and the Wheatstone forces.

After serving about a year as chief Wheatstone operator at Los Angeles, Mr. Wilson became general inspector of the Wheatstone system in the Western Division, and, if I do not greatly err, was made general superintendent of the Western Union's Wheatstone department in this country.

When the lease on the Wheatstone apparatus expired, about 1895, Mr. Wilson returned to his native country, where, I have heard, he made his mark in the present European war by inventing and presenting to his government several valuable electrical patents which are employed in the operation of field telephones and field telegraphs. He also devised some improvements in wireless apparatus. These inventions, I understand, have proven of great value to the British government.

I believe that Mr. Wilson is to-day an advisor in electrical and aeroplane construction-work, and has his headquarters in the War Office at London. I saw his name in the news columns not long ago, mentioning him as one of the old time telegraphers who had made good not only in England, but also in the United States.

All glory to him! I am sure that any of the old-timers who remember him in the good old days, unite with me in wishing him continued success in his native country.

I received recently a letter from an old-timer who worked with us in Deming, Los Angeles, San Francisco, and, in fact, all over the Pacific coast. His name is McGraw—"Billy" McGraw. I wonder if any of my readers will remember Bill?

Bill McGraw of the Itching Foot.

He was a first-class operator, but his feet always itched, or, in other words, he was saturated with *Wanderlust*, and could remain in one place but a very short time—about a month; six weeks was his limit. Then Bill would pack his collar-box and seek fresh woods and pastures new. He was quite a friend of Mr. Wilson, and in his correspondence with me frequently mentions that gentleman's name.

McGraw is now located at Havana, Cuba, in the employ of the Cuban government telegraphs. He enlisted in the Signal Corps when the Spanish-American War broke out; was sent to Cuba, remained there after being mustered out, and has been there ever since.

I have taken this as *prima facie* evidence that his feet have ceased to itch, and that Bill has settled down for good, as he informs me that he is married to a

little woman from Portland, Oregon, and has, besides, two or three pocket editions of the McGraw brand.

Mac, besides being a fine Morse operator, had learned to punch Wheatstone tape, and to pound the high-roller Remington typewriter in Wheatstone translation as well as the best of the imported article. He was, consequently, in great demand on the Pacific coast, where the Wheatstone was in operation as an auxiliary to the Morse system

He Had to Sleep Some Time.

Some time about the year 1887, Mr. McGraw was made the night chief of the Wheatstone department in San Francisco, and a good chief operator he was, popular alike with the Morse and Wheatstone men.

Mac, though, could not keep awake at night. As soon as he was sure that everything was running smoothly, he would take a chair and, selecting some obscure corner, would snooze away for an hour or two.

This sometimes greatly exasperated Mr. Converse, then the night chief operator in San Francisco for the Western Union. Although nominally Mr. Converse had jurisdiction over both the Morse and Wheatstone departments, he rarely interfered with the latter in any manner, leaving the details of its management entirely to the chief in immediate charge.

Mr. Converse remonstrated with McGraw upon several occasions anent his sleeping proclivities, but it did not appear to improve matters any at all, Mac merely grinning and going about his business.

This same sleeping disease appeared to follow him to church, also—for Mac was a regular church attendant. One Sunday, after the service, his mother asked Mac what he thought of the sermon.

"It was excellent," was Bill's reply.

"How do you know, when you were sound asleep directly the text was given out?" asked his mother.

"Well, mother mine," replied Bill, "it's this way: Down at the office, when I put a man to work, I always watch him for a few minutes to find out if he is on to his job. When I see that he knows his business, I go away and let him alone, because I'm sure that the work will go along smoothly.

"It's the same way with the preacher. I listen until he gets a good start; then when I am sure that he knows what he is talking about, I go off to sleep, confident that he is able to handle the subject without any assistance from me."

Now, gentle reader, what could you do with a character like that? This little story was repeated to Night Chief Converse, who laughed heartily at it, and, so far as I could learn, never again chided Bill McGraw for sleeping.

I do not believe that the Wheatstone system was ever worked over either the Central or Northern Overland routes—the former, as explained in a previous article, running *via* Omaha, Nebraska, and Ogden, Utah, to Frisco, and the latter *via* St. Paul, Minnesota, Helena, Montana, and Portland, Oregon. I say that I do not believe that this system was ever employed on these through routes, although I may be mistaken.

It occurs to me that it was tried on these routes for a short time, but my recollection is that, owing to the varied climatic conditions existing through the country traversed, it proved a failure, and was soon abandoned. However, for a number of years it *was* worked between Chicago and Omaha, and Chicago and St. Paul with varying success.

Automatic Used Extensively in East.

In the East, of course, it was used quite extensively, New York being hooked up with Philadelphia, Baltimore, Washington, Pittsburgh, Buffalo, Chicago, Cleveland, Cincinnati, Boston, and similar short-distance points.

There was a character — and a good character, too—employed in the Western Union Telegraph office in Frisco, in the

late eighties, whom I have not mentioned; in fact, there are several of them, for Frisco was in a class by itself, and produced characters. The one to whom I refer in particular is Elliot Leslie Hall.

At times it was Elliot Leslie Hall; then again it was E. Leslie Hall, and next time it was Elliot L. Hall.

I think E. Leslie could outtalk any man in the telegraph business at that time, and in my long career as a brass-pounder I have failed to meet his equal in these late days. E. Leslie was far from being regarded as an expert Morseman, but by his smooth talk he could convince the chief operator of any office that he was the only and original first-class operator and could give old Professor Morse points.

Even after the chief had become "wised up," he would keep E. Leslie on the pay-roll as long as possible at first-class salary figures until the work became too rank. Finally, however, in a gentle manner he might endeavor to inform E. L. that he would be compelled to reduce the latter's monthly stipend.

The Eloquence of E. Leslie Hall.

Then E. Leslie became really eloquent. He would explain to the much-bothered chief the difference between real first-class work and second-rate work—his, of course, being of the higher order.

He would tell how he made but little speed—turning out but eighteen or twenty telegrams per hour, to the first-class man's fifty or sixty—because he believed in "safety first," and considered speed as a secondary consideration.

Almost invariably he would have an extension of time of two weeks at a first-class salary, whereupon he would hie him forth to some other office where he was not well known, and repeat the process.

Of course, Elliot Leslie Hall is not his real name, but the old-timers on the coast will have no difficulty in recognizing the gentleman. He was a monumental bluffer, but did no one harm except himself, and, as I have stated above, could outtalk any man that I have ever known.

Some years after meeting Mr. Hall in San Francisco, his native city, I ran across him in St. Louis. E. Leslie looked rather seedy. He needed a shave. Although it was late November, he was wearing a thin summer suit of clothes, and his shoes showed considerable wear and tear.

Broke, but Beatific.

Despite all of these very apparent drawbacks, E. Leslie's face had the same cherubic and beatific smile that I had known in San Fran. He confidentially informed me that he was temporarily embarrassed, and that a loan of anything from two bits to twenty dollars would not be refused, following this news with the whispered story that he was upon the verge of a large fortune; that he had purchased a little commission fruit-business and was about to incorporate himself as the "Hall Fruit Company," and adding that if I would advance him the small sum required he would make me a rich man.

Of course, I took no stock in his story, but seeing that he was a good fellow, I advanced him a small sum.

I did not see E. Leslie Hall for about a month. One day, walking down Pine Street, some one touched me on the shoulder, and what was my surprise when upon turning around I beheld E. Leslie Hall.

Solomon in all his glory did not excel E. Leslie in his new raiment—gold-headed cane, Prince Albert coat, silk hat, patent-leather shoes, and two-bit cigar. The same sweet, childlike smile was upon his face as when he touched me four weeks before for the small loan.

"How did you do it?" I gasped after sufficiently recovering to say anything.

"Come to lunch with me at the Southern," E. Leslie responded, "and I'll tell you."

To the Southern we went, where we lunched regardless of expense. Every

one appeared to know E. Leslie, and he appeared to be a favored guest. The orchestra played airs of his selection, while the negro servitors literally fell over each other in their eagerness to wait upon him.

It appears that E. Leslie had outtalked an old gentleman who had for years been conducting a small—a very small — commission fruit-business in the produce district of St. Louis. Hall convinced the old gentleman that his methods were antiquated, and so impressed him that they formed a partnership under the name of the Hall Fruit Company (capital *nil*).

The Great Fruit-Coup.

The old gentleman raised a couple of hundred dollars, which he entrusted to Mr. Hall, who took train to Florida. There his persuasive tongue—backed up by a bank-roll made tc look plethoric by one and two dollar bills wrapped inside of a limited number of twenties and fifties—secured the firm a consignment of several car-loads of oranges and other fruits, which arrived in St. Louis in excellent condition at a time when these articles, for a brief interval, were extremely scarce.

The Hall Fruit Company was therefore enabled to dispose of its stock at a very large profit. For a time this coup placed E. Leslie upon a pinnacle, which crumbled a few weeks later, when the experiment was repeated and proved a rank failure.

Anyhow, the old gentleman associated with Mr. Hall received full value for his business, and was the gainer by several hundred dollars.

Not so, however, with Hall. His profits had been expended in high living and nice clothes.

The latter he disposed of at a great discount, so that the next time I saw him he was again wearing the somewhat seedy summer suit which he had on when I first met him in St. Louis. His smile was the same — so was his plea for assistance; and his optimism was unchanged, his courage undaunted.

I could tell of many more like escapades of E. Leslie Hall, but they are too numerous to mention, and are, anyway, only a side-light on one telegraphic celebrity. The last I heard of him, he was in the employ of the United States Government on the Isthmus of Panama.

I have not heard as yet whether he succeeded in buffaloing Colonel Goethals or Uncle Sam, or not; but he has nerve enough for anything, and I would not be astonished if such were the case.

Bill McCandless was another well-known telegrapher who hailed from the Golden Gate. Bill now operates a highly successful chicken-ranch near San José, California.

Bill at one time roomed with E. Leslie Hall somewhere out in the Mission district. Hall was not working. McCandless was on the Western Union's extra list, making about five hours a day—not enough to render one opulent, but sufficient to keep body and soul together.

And the Check Was Good.

One day Bill received a hundred-dollar check from some person who had been indebted to him for quite a while. This came like a windfall, and for a day or two he and E. Leslie Hall feasted sumptuously. Then Bill returned to work.

That night, after returning to the room occupied by them jointly, E. Leslie made a requisition on Mac for twenty dollars. Mac refused it on the ground that he had other uses for it. Hall became somewhat indignant and left the room.

Bill shortly afterward turned in, taking the precaution, however, of caching his remaining bank-roll, amounting to something like seventy dollars, in the toe of his sock, figuring that if he placed it elsewhere Hall might enter the room and relieve him of it. Not that Hall had ever done a trick like it, but Bill wanted to be on the safe side.

The next morning Bill awoke and discovered that Hall had not returned during the night. After a bath he arrayed himself in fresh underwear and socks. Then he bundled up his discarded garments and took them to a Chinese laundryman whom he patronized regularly, giving no thought to the seventy dollars he had cached in his sock.

Proceeding down-town, he entered a restaurant and ordered breakfast. After partaking of the meal he reached in his pocket for the necessary *dinero*, and could find no money. Strange to say, he had forgotten placing his bills in his stocking-toe the night before, so he immediately jumped to the conclusion that Hall had "frisked" him.

He squared himself with the restaurateur, who knew him, and then started on a hunt for Hall. But the latter was not visible at any of his usual haunts, much to the sorrow of Bill, who would have surely made mincemeat of Hall had he been found.

Later in the day McCandless went on the job. There, while working the Los Angeles local, memory came back to him. Like a flash of light, he saw himself caching his bank-roll in his sock-toe and chuckling to himself at his cleverness in hiding the money from Hall.

Later he visualized himself carrying to the Chinaman's the bundle which contained the sock with the money in it.

As soon as he could get the eye of the traffic chief, he got that official to release him for the day and hot-footed it to the laundry, where to his infinite relief he discovered that his bundle of laundry had not yet been opened. He reclaimed his roll, rejoicing, and found Hall, who celebrated the occasion with him in a befitting manner. That's all!

THE ARMY OF THE RAILS.

By Paul Steele.

WE are coming, Father Woodrow, we are rumbling good and strong:
Can't you hear the clacking cadence of the wheels upon the tracks?
From the Gulf to the Dominion you can hear the siren's song;
There's a trail between the oceans that comes belching from the stacks.
There's a thunder in the mountains like the game the Dutchmen rolled
On the night that Rip Van Winkle took a drink and went to sleep:
There's a clatter in the valleys, and we've got a strangle-hold
On this job of hustling traffic, and our sand-boxes are deep.

DO you want a mess of produce? Do you want a raft of steel?
Or perhaps a load of barkers, or again a million men?
If you'll squint into our blinkers you will know just how we feel,
And these days each man among us feels he has the strength of ten.
We are coming, Father Woodrow; we're the army of the rails;
You can bet your blasted glasses that you've got us at your back:
All the condemned steam is whistling like some twenty trillion gales,
And God help the damfool enemy that lingers on the track!

CAR-CONDUCTORS' COURTESY COURSE.

Brooklyn Rapid Transit Runs a School Where Its Help Study Politeness from a Book.

"HEY, feller, get your feet out of the aisle!"

"No, sonny, you can't stand on the platform."

"Move inside the car! Can't you see you're blocking the way?"

"Nix on that stuff, Billy; we don't take pennies."

These are but a few of the good old bits of conversation that used to greet you when you boarded a street-car in New York. But, hooray! They are dead! And instead you are likely to hear something like this:

"Yes, sir; we shall be pleased to stop at the next corner. Would you be good enough to move in a little further, sir; that is, if it will not inconvenience you any?"

Or perhaps:

"Oh, no, madam; we don't mind pennies at all. In fact we are glad to spare you the bother of carrying them."

"May I have the pleasure of giving you a transfer, madam? Thank you, very much."

"PLEASE DO NOT BLOCK THE AISLE, SIR," SAYS THIS NEW TYPE OF CARMAN, AND THE ACCENT IS ON THE PLEASE

Which is all by way of saying that the Brooklyn Rapid Transit Company of New York has started a courtesy school for its employees, where conductors and motormen alike will be taught to say the prettiest and most polite things possible. And ultimately the stranger who boards a New York street-car for the first time may be able to kid himself into the belief that he is entering a lovely, carpeted drawing-room.

Here are the rules which the company's "salesmen" (there are no more conductors) must learn:

Everything's Provided For.

SUBJECT NO. 1—CASH FARES

A. COLLECTING	WHAT TO SAY
1. On leaving terminal	1. Fares ready *please.*
2 On the line.	2 Fares *please.*

3. In case of doubt.	3. Excuse me, did I get your fare?
4. When offered bad money: counterfeit, mutilated, foreign.	4. *I am sorry,* it appears to be: counterfeit, mutilated, foreign, and not legal tender.
5. When a passenger refuses to pay.	5. *I am sorry,* you will have to pay or leave the car.
B. WHEN MAKING CHANGE	
1. In changing any coin or bill.	1. How many, *please?*
2. When complaint is made of improper change.	2 If you think a mistake has been made, *please* take my number and report it at 85 Clinton Street.
C. FARES OF CHILDREN	
1. When age is in doubt	1. What is child's age, *please?*
2. When amount of fare for child is disputed.	2 Children from 6 to 12 years old pay half fare; children over 12 years old pay full fare, *please.*

SUBJECT NO. 2—TRANSFERS

A. WHEN A PASSENGER ASKS	WHAT TO SAY
1. For a transfer to a line where direction is restricted.	1 *I am sorry,* we do not transfer in that direction.
2 For a transfer some time after paying fare.	2. Next time *please* ask for transfer when paying fare.
B. WHEN A PASSENGER OFFERS	
1 A transfer on which the time has expired.	1. *I am sorry,* I cannot accept that transfer, as the time has expired.
And in case the passenger asks for extra time allowance on such transfer.	*I am sorry,* but it is against the rules to allow any more time.
2. A transfer improperly punched.	2. *I am sorry,* I cannot accept this transfer, it is improperly punched.
And if passenger persists in offering the transfer.	*Please* pay your fare, take my number and report the matter at 85 Clinton Street. If a mistake has been made it will be corrected.
3 A transfer having the time or date torn off.	3. *I am sorry,* I cannot accept this transfer, as it is mutilated.
4. A transfer offered after 12 noon with the P.M. coupon detached.	4. *I am sorry,* I cannot accept this transfer, as the afternoon coupon is missing. *Please* get your transfers from the agent.
C On arrival at terminal or other points where transfers are issued on the street.	
D. When a passenger boards a car at other than the transfer point.	*I am sorry,* I cannot accept this transfer, you did not board at the transfer point.
E When a passenger after any of the above explanations has been given, tries to start an argument.	*I am sorry,* but the rules do not allow me to do otherwise.
F. When a passenger whose transfer cannot for any reason be accepted, insists on riding	*I am sorry,* but you will have to pay your fare or leave the car.

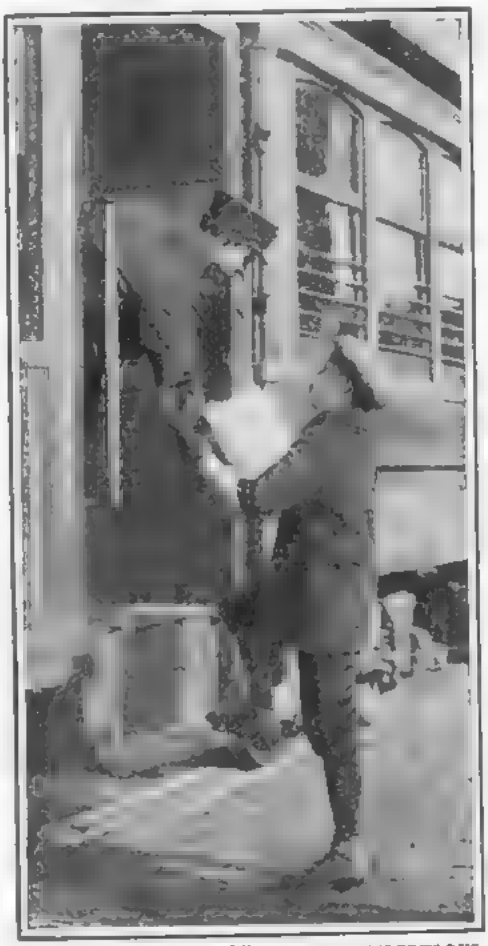
In Case of Ejectment.

In all cases requiring ejectment from car for refusal to pay fare after void transfer has been rejected, trainmen must carefully observe rules 70 and 80 of Surface Transportation Department, that whenever possible, ejectment should be in the presence of a policeman or an inspector

"PERMIT ME TO ASSIST YOU, MISS," SAYS THIS LATEST PRODUCT OF THE BROOKLYN RAPID TRANSIT SCHOOL OF POLITENESS AND THE MISS ALLOWS HERSELF A SUPPRESSED SMILE

SUBJECT NO 3—PROTECTING PASSENGERS WHEN BOARDING AND ALIGHTING

A. WHEN PASSENGERS ARE BOARDING	WHAT TO SAY
1. When cars are coming to a stop and passengers start to get on	1. Wait until the car stops *please*
2. Whenever passengers are boarding car	2. Watch your step *please*
3. Whenever passengers attempt to get on a moving car at the far side.	3. Do not board *please*, it is dangerous Car stops at near side only.
4. On center entrance cars.	4. *Step* inside *please*, look out for the doors.
B. WHEN PASSENGERS ARE ALIGHTING	
1. When passengers start to get off a moving car.	1. Wait until the car stops *please.*
2. Whenever passengers are alighting.	2. Watch your step *please.*
3. When a passenger having gotten off walks around rear of car	3. Look out for car on other track *please.*



"ARE YOU KIDDING ME?" ASKS THE INCREDULOUS BOY WHO A WEEK BEFORE WAS HUSTLED OFF THE PLATFORM BECAUSE HE CARRIED A BUNDLE. NEW YORKERS HAVEN'T QUITE GOT USED TO BEING TREATED SO POLITELY AND THEY'RE STILL A BIT SKEPTICAL.

4. When passengers try to board, preventing passengers from alighting.	4. Passengers off first *please*.
5. When traffic policeman flags a car and passengers try to alight.	5. We are flagged by a traffic policeman—it is dangerous to alight.
C. WHEN CONDUCTOR IS AWAY FROM REGULAR POSITION	
1. When obliged to give starting signal inside.	1. All right back there, *please?*
2. When passenger on platform attempts to give starting signal.	2. Do not give starting signal *please*, it is dangerous.

SUBJECT NO. 4—DIRECTING PASSENGERS ON CAR

	WHAT TO SAY
A. TO PREVENT CONGESTION	
1. When passengers crowd rear platform or block the door.	1. Step inside *please*, do not block passage.
2. When passengers congest rear end of car having room toward the front.	2. Step forward, *please*.
3. When passengers spread out on seats, excluding other passengers.	3. *Please* make room for passengers who are standing.
4. When passenger stands between controller and step on rear platform.	4. Will you *please* move a little, I am required to stand there.
5. When conductor is going by passengers in crowded car.	5. Excuse me *please*.
B. GIVING DIRECTIONS AT TERMINALS AND IN CHANGE OF CARS	
1. When short line car arrives at destination.	1. Last stop, all change; *please* get your transfers from the agent.
2. At terminals where passengers are waiting to board (such as Brooklyn Bridge)	2. Leave by the front door *please*; or, use both doors, *please*. (As required by orders.)
3. When requesting passengers to change cars due to disabled car.	3. This car is out of order. *Please* take car ahead or car behind.
C. GIVING MISCELLANEOUS DIRECTIONS	
1. As to smoking.	1. No smoking *please*, by order of the Public Service Commission.
2. Any special order or directions.	2. Begin or end order with "*please*."
3. When passengers are riding on step, running board or bumper.	3. Step in off the (step, running-board, or bumper) *please*, it is dangerous and against the rules.

SUBJECT NO. 5—FOR MOTORMEN

	WHAT TO SAY
A. GIVING INSTRUCTIONS TO PERSONS IN THE STREET	
1. When forward end of car is crowded and persons attempt to board by front platform.	1 *I am sorry*, there is no more room in front, *please board at the rear*.
2. When car has stopped at near side and persons attempt to board at the far side.	2. Do not board, it is dangerous. Cars stop on near side only.
B. GIVING INSTRUCTIONS TO PERSONS ALIGHTING BY FRONT PLATFORM	
1. When passenger starts to get off a moving car.	1. Wait until car stops *please*.
2. Whenever passengers are alighting.	2. Watch your step *please*.
3. When passenger starts to open the gate.	3. Do not open gate *please*.
C. 4. To passengers wanting to stand on front platform. (Does not apply to persons riding on a pass.)	4 *Please* step inside. Passengers are not permitted to ride on the front platform.

In explaining the advantages of the adoption of this code, Superintendent William Siebert, of the Surface Transportation Department, who is in charge of the work, says:

> Almost every business has two natural divisions. One is producing what is sold and the other is selling the product.
>
> In our business those who build and

WHERE YOUR CONDUCTOR BECOMES YOUR FRIEND AND PORTER HE HELPS YOU OFF AND THEN CAREFULLY HANDS DOWN YOUR LUGGAGE NO, IT ISN'T IN THE MOVIES—SIMPLY ON THE STREET CARS OF BROOKLYN NOWADAYS

maintain our tracks and equipment and those who supply our power are in the manufacturing end. Those of us who operate the cars are the salesmen, for by our work our product, transportation, is brought around where the public can use it; through us the actual sales are made to our customers, who are the passengers on the cars.

2,000,000 Passengers a Day.

Here in the B. R. T. there are about 2,000,000 separate sales of transportation every day—one for every passenger who rides on one of our cars or trains.

So salesmanship is very important for us. Street railway salesmanship must be one of four big subjects in this *Efficiency Campaign*. It includes every detail that goes to make up good service, and particularly, next to the element of *Safety*, it demands the *courteous* handling of the people who ride on our cars.

For Safe and Efficient Service.

Courtesy determines the manner in which the street railway man treats his passengers or customers—and the *Courtesy* they receive largely determines the way they behave on the cars toward him and toward each other.

And since passengers cannot be allowed to do exactly as they please on the cars, the men who run the cars and the people who ride have to work together if service is going to be safe and efficient.

People can't work together who don't understand each other or who can't get along pleasantly. Street railway men are constantly obliged to tell passengers what to do and to explain why certain things must be done at certain times and in a certain way.

"*Fares please*" means that *now* and not some future moment is the proper time for paying one's fare.

"*Wait until the car stops please*" explains that the time has not yet come when it is safe to get off.

"*Step inside, please, do not block the passage*" tells the passenger he must realize that others want to ride on the same car with him.

So the training which every man receives when he comes to the B. R. T. devotes much attention to salesmanship, and shows each conductor and motorman how, by saying and doing the right thing at the right time they can make the passengers readily understand what they, in turn, ought to do.

Knowing the Right Thing to Say.

To make this part of our training still more effective and useful to our platform men—our salesman—we have now standardized the phrases which surface conductors and motormen need to use in handling people on the cars into a *B. R. T. Standard Courtesy Code for Surface Operation*.

We believe that you will all appreciate how this *Brooklyn Rapid Transit Standard Courtesy Code* will help your individual efficiency and make your work easier.

CANNON ON CARS TO GUARD COAST.

Railroads Can Quickly Assemble Giant Artillery at Prepared Bases, According to This Plan.

ITH the United States at war with Germany and the life of the nation threatened, the military authorities turned instantly to put terrific pressure upon the railroads, the modern right arm of Mars. For all ordinary transportation service our rail-traffic lines were happily not found to be wanting.

In special equipment for meeting the demands of twentieth-century warfare we were unready for the President's war order. But Yankee genius may always be depended upon to rise and meet national emergencies.

There is evidence that the urgent need of giving protection to the coasts and borders of the country will shortly bring into use the railroad car as the mount of heavy guns and that the existing trackage, at strategic points, will be converted into battle lines.

This military scheme which was first described as a possibility in the RAILROAD MAN'S MAGAZINE of April, 1916, is now in its perfected form receiving the close study of the War Department.

Whatever method is finally accepted it is certain that it will take the form of a heavy gun, mounted on a steel car, available for rapid transportation, meeting the standards of railroad equipment, and in some way provided with a reenforced foundation to take up the mighty strain upon the supports while the gun is in action.

Two American inventors, L. W. Luellen and Cecil F. Dawson, of New York, have presented to the government comprehensive and practical plans for portable railroad artillery, complying with standard mechanical conditions, and with suitable firing-bases, all fully patented.

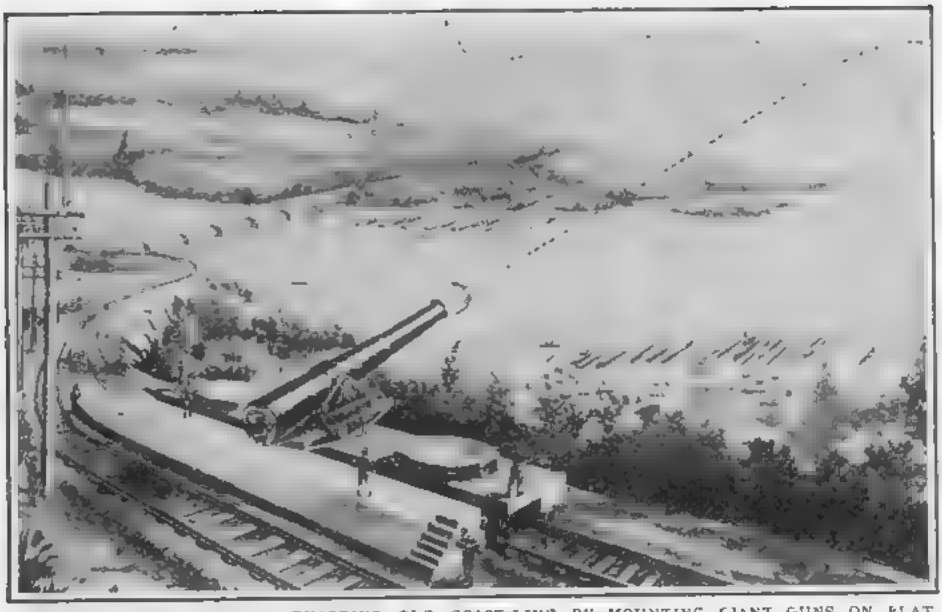
Simply stated the Luellen-Dawson inventions consist of permanently mounting guns, mortars or howitzers, singly or in pairs, on railroad cars for transportation. The mounted gun, supported on a steel flat-car, without armor protection is ready for instant and high-speed movement to a point of attack. At a given strategic point along the line of the railroad there has been previously installed a reenforced supporting base from which the gun may safely be fired.

Where guns of super-power are used the base is to be of solid concrete, reenforced with steel I-beams. This supports the track and offers a substantial side support for the car.

Thus the portable gun-carriage is brought to rest on this solid foundation and by a system of locks is anchored to the base. Where smaller guns are used a set of additional rails are employed, so arranged as to take up pressure from extra sets of supporting wheels set outside of the standard trucks.

Some system of substantial support must be adopted as a firing-base. Most of the coast-track runs parallel with the water-line and hence firing to the sea must be at cross angles with the car.

In firing these great guns there must be full consideration of the strain due to recoil action. Firing even a 14-inch gun at right angles from a car would destroy the average railroad track. It is in this feature, mainly, that American inventions

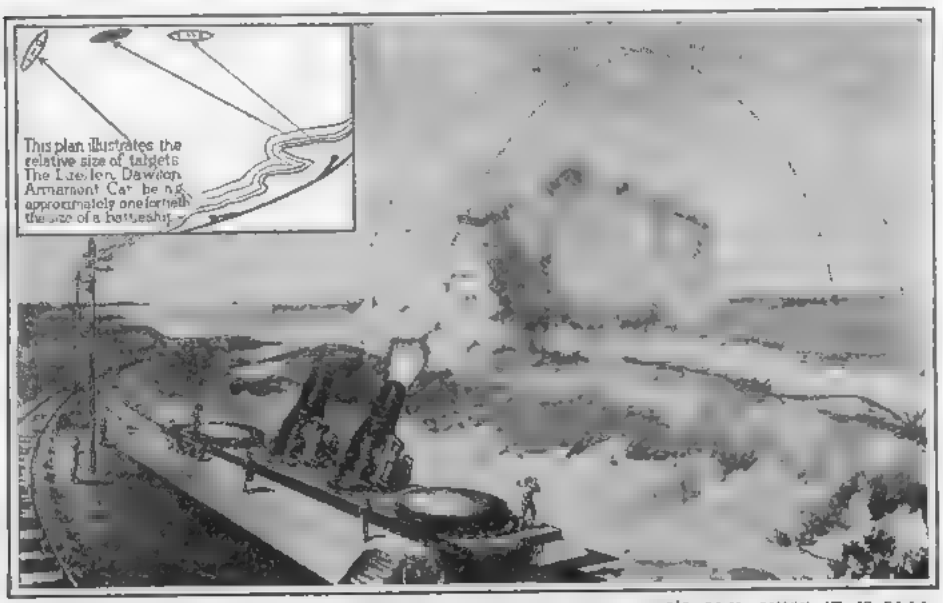


LUELLEN DAWSON PLAN OF GUARDING OUR COAST-LINE BY MOUNTING GIANT GUNS ON FLAT CARS WHICH ARE LOCKED TO CONCRETE FOUNDATIONS TO PREVENT DISLODGMENT BY RECOIL

seem to be correcting the faults of the systems used in Europe

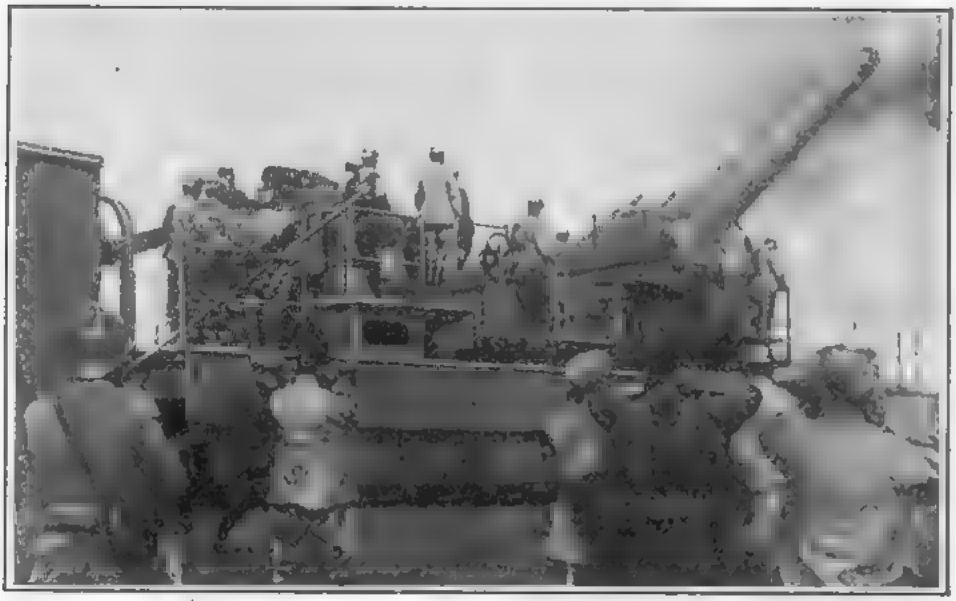
Guns may also be concentrated in great numbers at a point of attack and upon very short notice They may as quickly be withdrawn from the direct fire of an enemy and thus avoid being destroyed or captured.

Of the several types of railroad artillery used in Europe those designed to remain



THIS RAILROAD FORT MAKES A VERY DIFFICULT TARGET FOR A SHIP'S GUN, SINCE IT IS ONLY ONE-FORTIETH THE SIZE OF THE AVERAGE BATTLE-SHIP

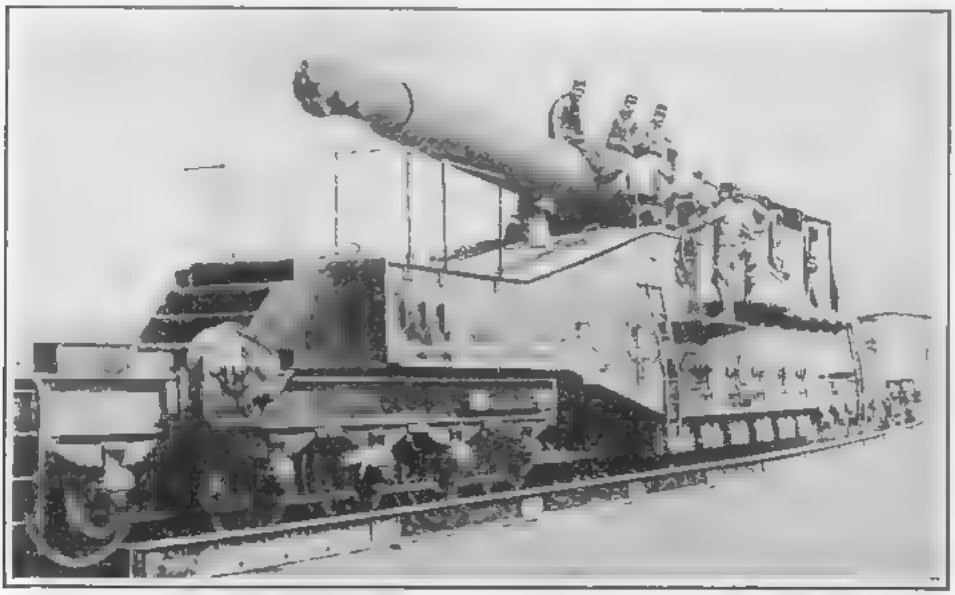
Photos copyrighted by L. W. Luellen.



THIS FRENCH 14½-INCH GUN IS FASTENED SECURELY TO THE TRACKS, PERMITTING THE CREW TO STAND ERECT WHILE THE 2,000-POUND SHELL IS BEING FIRED

on the tracks at all times have been found most effective. In such cases special sidings have been used, built in circles so that the gun might always shoot parallel with the tracks, the recoil thrust being taken up by the action of the car sliding back on the rails. These guns are extensively used on the French front.

Then, too, there have been some more or less successful schemes of supporting the car by reenforcing the track-beds and by systems of props.



AS ADDITIONAL SUPPORT FOR THIS STYLE OF RAILROAD WEAPON IN USE BY THE FRENCH ARMY, I-BEAMS, WHICH RUN ALONG THE TRACKS AND REENFORCE THEM, HAVE BEEN UTILIZED

OPR. MARKS AND "RULE G." *

BY CHARLES WESLEY SANDERS.

The Has-Been Wouldn't Take a Pass to His Little Boy's Country; He Waited for a Regular Ticket.

(The telegraph office-boy speaks.)

BEEN puzzling over it for a month and I can't figure it out, so I pass the buck and the saw, too. I was telling you a while back about a guy named Madigan drifting into our office and copping out a dame.

Well, while Madigan was on his vacation, a boomer took his place. It's this boomer that's got my goat. His name was Marks.

Well, our chief went over to the W. U. about the time Madigan got back, and that kept Marks working along. And after while Marks got a steady job right here in our gen. offices. I'll tell you about that in a minute.

Marks was a great op. Me and him become friends, though I didn't like him at first. We become friends after the first pay-day he was there.

He gimme a quarter that pay-day, and while his money lasted he was a fast spender, with me in for my share. So I got to hanging around his wire. I'd 'a' done anything for Marks.

At first I couldn't make him out as an op. In the morning when he'd first show up he'd tear things loose.

He had a hand like a ham, but it was as light as a feather on his key. And as for shoving a quill on them forms we have, he was pretty near as good as Madigan. And the beauty of it was he could talk and work at the same time. Nothing ever bothered him.

Well, along toward noon his copy and his sending wouldn't be so good. And about the time he was ready to go to lunch I could of done as well myself. His hand would be shaking like a leaf.

I didn't tumble till one day when he come back from lunch. I leaned over to take the stuff off his hook and I got a whiff of his breath. Then I knowed, because my old man, before he died, was that way. Only my old man was never cheerful like the boomer.

This here pay-day I'm telling you he gimme the quarter, he comes back the next day without his hair combed. I knowed he'd been on a bender, because my old man was that way, only my old man never combed his hair because he was always on a bender.

The boomer was kind of touchy, too. He kicked about everything, and said he'd never seen such a bunch of hams as them ops on that No. 2 wire he was working.

Well, what I was going to say was I'd expected the boomer would show with a new suit, for he needed one bad. But the only thing he'd bought was a new fancy vest that was stormy enough to of crossed every wire running out of our office. And the boomer, he was wet enough to of grounded his own wire at least.

There! Now I'm up to election night Mebbe I sh'd of sprung that first, but I wanted you to know what kind of a guy this boomer was—a good op, but a souse.

Well, Mulford, who'd been working the Chicago wire, had been made chief. Election day he says to me:

* The telegraph office-boy's first story appeared in May, 1917, under the title, "The Jester on the Chi Wire."

"I want you to be here to-night at seven o'clock. The gen. super is going to have a party of friends here, and I'm going to take the returns for them. We're going to cut in on a W. U. through wire."

So I says, "All right; I'll be here."

So that night I come down. The gen. super and his party was sitting around the office, smoking and talking, and the chief he was sitting before the instruments the Chicago wire is usually cut in on. Just as I come in the gen. super says, "Nothin' yet, Mr. Mulford?"

"No, sir," says Mulford; "they're sendin' stock reports to some newspaper yet. I expect the bulletins will start soon."

Well, the gen. super and his bunch begun to chew some more. I went over and stood by Mul so's I could be nearer them to hear what they was saying.

And then the door opens and in saunters Marks. He had on his fancy vest, and he was lit up inside quite a little, but quiet, and he was smoking a long, black cigar. Then gen. super gives him one look and then he gets up.

"Why, Mr. Marks!" he says, and he walks right up to that boomer and sticks out his paw.

Yes, sir, just like that: "Mr. Marks," like the boomer was the gen. super and the gen. super was the boomer. And what Marks done was worse yet.

"Howdy, Tommy; howdy! Glad to see ye. How's tricks?"

He gives the gen. super's hand a twist.

"What 're you doing, Mr. Marks?" the gen. super asks.

"Working the No. 2 wire here," says Marks, and he walks past the gen. super and sits down.

Then the gen. super sat down, too, and his face was rather red. I got back of Marks so's I could keep my eyes on him.

Gee, I liked to look at him after that! I felt like I was looking at the Pres. of the U. S. Marks he only tilted back his chair and smoked.

Well, pretty soon the gen. super says, "Anything yet, Mr. Mulford?" And Mul says, "Yes, sir; they are just about to start a bulletin."

Then the sounder says, "bun." It says it very fast an' in a kind of peculiar way. I wondered what in Sam Hill bun was.

Well, say! That sounder begun to clatter then. I couldn't make head nor tail of it. It was the craziest sending I ever listened to. I thought the sounder would fly out'n the resonator

Mul suddenly looked at the sounder, stretched his hand for the key, put it back on the mill, looked puzzled, got very red, and broke. He said something, and that crazy sending started again.

I looked for the chief to bust in and tell that sender to get a relief. He was the rottenest sender ever I heard. But Mul broke again and said something.

And up gets the boomer and starts to peel his coat.

"He's coding to you and using a bug, kid," he says. "Lemme just listen to his pleading for a minute."

Mul opened his mouth to say something, still holding his key open. I expected he'd tell Marks to go chase his shadow. But before he could say anything the gen. super spoke up.

"Yes, Mr. Mulford; please let Mr. Marks sit in. He's an old press man. A bug and the code are too fast for us boys."

Mul gets up, and Marks sits down. He snaps off something and closes his key. He never took that cigar out of his mouth till the long ashes dropped down on his fancy vest.

He just set there, pounding the old mill. How he done it I don't know. He'd take something on a piece of clip, take the clip out, and slip another in, and go on pounding. Every once in a while I could make out "bun." And that was all

Well, I didn't see Marks open his key for an hour. Then he begun to break once in a while. Then he was breaking pretty frequent. His hands was fluttering over the old mill. I knew what he needed.

Suddenly he stopped pounding and looked at the super.

"Care anything about local election, State of Oregon?" he says.

"No," the gen. super says.

"That's what he's sending now," Marks says. "I'll be back in a minute."

He wasn't back in a minute, but he was in ten. He just sat down and begun to pound again. And he kept it up this trip till the gen. super said he didn't care for no more.

Marks says something on the key, and pretty soon the sounder clicked shut in the middle of something. Marks got up.

"How are you getting along, Mr. Marks?" the gen. super asked.

"Very good, sonny. Very good, indeed," says Marks, and he grabs his coat and beats it.

Well, next day the gen. super's bell buzzes while I'm watching Marks work. I spit on my hand and smoothed down my hair and went in. The gen. super says, "Tell the chief to relieve Mr. Marks and say I wish to see him."

I delivers that message and the chief does it. Marks gets into his hat and coat and goes down-stairs. He's back in five minutes and goes into the gen. super's room with his hat still on.

I walked over to the Chicago wire and found a message for the gen. super in the book. I toted that book right in there. The gen. super was leaning across his desk and Marks was sitting alongside him.

The gen. super was talking very low and earnest. He didn't look at me, but Marks looked up. He says to me, "Hello, old pal!" right while the gen. super was talking to him.

I beat it out of there. I got my own job to look out for.

That night I laid for Marks when he got through. When he come down-stairs I held him up.

"Say," I says, "where do you get this stuff? That's the first time I ever see the gen. super act like he was human."

Marks took off my cap and rousled up my hair like he was always doing when we was off duty.

"You want to know a lot, don't you, old pal?" he says. "Well, you just come along with me."

We went down the street our office is on till we come to the Avenue, the main street in our town. We come to a big restaurant and the boomer shoves me through the door and follows me.

Gee, it was swell! They had marble-top tables and paper napkins, and shiny pepper and salt boxes, and a lady came and says, "What is it?"

"Give this lad all he can eat," says the boomer. "Cup of hot black coffee for me."

"What is it?" says the lady to me.

I never lost my nerve before, but this had been so sudden. I looked at the boomer.

One thing about that guy, he never kidded me. He was always as kind to me as if he hadn't been my father, which he wasn't.

So he speaks up in the husky way he has:

"Bring the lad a small porterhouse with onions, a jelly omelet with lots of jelly, some hash-brown potatoes, some sliced tomatoes, a piece of raisin-pie, and a glass of milk, and don't have that milk too cold."

I thought maybe she wouldn't like the way he talked, but she just said, "Yes, sir," and went away very fast.

I sat looking at my plate. I didn't have the nerve to look around, but I knew what I was going to do to them eats when they got here.

Pretty soon the boomer says to me, "How old are you, son?"

I says I'm twelve.

"Uh, huh," he says. "I had a little boy like you once."

Then he didn't say no more. Finally I looked at him. He was sitting with his hand over his eyes and his hand was pretty shaky.

"Where is he now?" I says.

"Oh," he says, "he's with his mother. They had to go away."

"When 's he comin' back?" I says.

"He won't be back at all," he says.

"It's too far. He can't get no pass from where he is."

Well, I was kind of glad and kind of sorry. I was sorry because the boomer didn't seem to be feeling any too well. I was glad because I knew that if his own kid should come back he wouldn't be buying me no eats like he had just ordered. He'd be buying 'em for his own kid.

Well, say! If I live to be a gen. super I'll never forget that supper. I didn't know they had things to eat in the world like that.

When I got done I could only sit and puff. Well, the boomer he pays the bill and sends me home.

Next morning the boomer sprung a surprise. It was well past pay-day now, and I knew he was getting down to cases with his money.

But in he comes with new glad rags from top to bottom. And, say! They was some rags! Light suit, tan shoes, straw hat, blue tie, silk shirt with some kind of a high-up hickey collar.

And he was looking better. He had a hair-cut and a shave, and he looked real clean

Well, he sat down and answered his call and begun to take a lot of forms. But I seen he wasn't there. His hand was shaking all over the sheet.

"I can't quite make it yet," he says, and I seen his voice was different, too.

It wasn't so husky. It was kind of weak and shaky. He was sweating, too, though it wasn't so very warm, especially with the fan going.

So he gets up and goes out, though Mul has his eye on him, and Mul hasn't got a lot of use for him on account of that election-night dope. When Marks comes back he is steadier, and he gets through the morning. He done that way for about a week, and then, one morning he didn't go out at all.

He was pretty shaky by noon, but he had got by. Between that and pay-day I knew he hadn't had a drink.

Pay-day he says to me, "Let's go out and have a reg'lar bender to-night."

I says, "All right," and I waited for him when quitting-time come.

I'd been tickled if he'd taken me to that same place, but he didn't. He took me to one not quite so swell.

They didn't have no marble-top tables in this one; only regular tables with table-cloths on them.

But they was some music playing some place, though I couldn't see it. And the waiter was a man with a funny kind of a sawed-off waist on.

But the eats! Gee, they was better than at the other place. I don't know what we didn't have. Soup and oysters and roast beef and mashed potatoes. We went the limit.

And it was nicer than last time, because Marks was eating his share. He et slow, and used his napkin a lot, but he got a good deal inside him first and last.

Then he ordered a cigar. I was looking to see if my cap was still there, but Marks says to sit still; we'd visit for a while.

For a spell he set looking straight ahead of him, the smoke coming out of his mouth like he was feeling pretty good. I could look at him without him noticing, because he wasn't paying no attention to me.

Say, he was a pretty good-looking fellah, now. His face was kind of wrinkled and his hair was kind of gray, but I don't know but he really looked more like a gen. super than our gen. super did. Pretty soon he looked at me.

"Son," he said, "what you goin' to be when you grow up?"

"An op," I says, kind of surprised.

"Well," he says, "if you are, be a good operator. It's a fine profession if you pay attention to your business. Don't ever touch booze. It 'll put you down.

"Study the road. Aim for a despatcher's job.

"Keep out of the general offices. Get out where the boys are. They'll teach you more things than you can learn any other way. Some day you may be in the superintendent's chair."

"You ever been a gen. super?" I says.

He gimme a funny kind of a look.

"You certainly are a good old pal," he says. "The best ever. No, son, I never got quite that high. I quit trying too early. But I've been a chief despatcher. That's where your general superintendent worked for me."

"Gee," I says, "he used to work for you? The gen. super?"

"I broke him into the game," he says, blowing out a mouthful of smoke. "That was why he called me Mr. Marks the other night. He was a raw, green boy then.

"But he was ambitious, and that's the main thing. He worked hard. Before I slipped the harness I had him in line for a despatcher's job.

"He was not a very clever boy, but he was a good boy. And I guess that's the best kind of a boy after all. That's the kind of a boy I want you to be, son."

"What 'd he do to become a gen. super?" I says.

"Just kept on working," he says. "Went from one thing to another. He got my old job finally. All this was on another road, you understand.

"Then he come over here as trainmaster and become superintendent, and then general superintendent. I might have done that, son, but you see I'm a drunkard."

I couldn't say nothing for a minute. I don't know what come over me. I felt real choky. It seemed like we was two men sitting there talking instead of me just a kid.

"I'm telling you all this, son, so you can profit by it," Marks goes on. "That night—election night—you saw what the general superintendent was and what I was. I had it on him at the start, but booze made the difference."

His voice went so low I could hardly hear him.

"Promise me, son," he says, "that you'll never touch that stuff."

"Sure I promise," I says.

"There," he says, "don't cry. That's all. We'll have some ice-cream."

We set there, eating ice-cream and listening to the music, and Marks not saying much till it got dark outside.

"Well, son," he says, "I expect you better be going along home. You don't want to make your mother worry. Never make your mother worry."

We went outside.

"I'll walk with you a piece, and then I'll put you on the car," Marks says.

We walked till we got out of where the stores was. Then Marks stopped. He pulled out his roll and peeled off a five.

"Son," he says, "you take this and have your mother put it in the bank for you. It 'll be a nest-egg for you."

"Gee!" I says. "Can you spare it?"

"I'm sparing it," he says. "Tuck it away where you won't lose it, and tell your mother when you get your next raise to add a little to it every month. You don't know the good feeling it gives a man to have a little laid away."

I crumpled up the five-spot and put it way down in my pocket. Then Marks takes off my cap and rousles up my hair.

I looked up at him. His lips was kind of trembling and his eyes was all shiny. I begun to cry.

All of a sudden he stoops down and picks me up in his arms. He hugs me for a minute—a reg'lar bear hug, for he was a big guy—and then he sets me down. He sticks out his mitt. I took it.

"Good-by, old pal," he says. "Good-by."

I put my hand in his and we shook good and hard. Gee, it made me feel fine to be shaking hands with him! I wisht my mother was there to see me.

"Good night," I says.

"No," he says; "good-by."

"Where do you get that good-by stuff?" I says.

"I'm on my way," he says. "I quit to-day."

I just leaned against the fence and bellered. He stooped down and hugged me some more.

"Stiffen up, son," he says. "You're all right."

"Where you going?" I says. "Why did you quit? I don't want you to quit."

"Oh, I'm going out there," he says.

"To-night?" I says.

"Oh, not to-night," he says. "I haven't transportation," and he laughed.

"Can't you get a pass?" I says.

"A man can get a pass out there," he says, lifting up his head. "But I must wait till I can get a reg'lar ticket."

"Oh!" I says. "That's where your own kid is?"

"Yes," he says; "that's where my own kid is."

"Well," I says, "that's all right then. I hope you meet him soon. He must miss you a lot."

"I hope he does," Marks says. "Son, here comes your car. Run for it. Good-by."

The last I seen of him he was standing there at the corner waving to me.

And that's how it's all been puzzling me. Why wasn't Marks with his kid all along? Why had he become a boomer?

'Specially why didn't he take the money he blowed on me and what he had and just go there?

I asked Mul all about it the next day, but Mul just give a snort.

"That souse!" he says. "He hasn't got no kid. He hasn't got nothing but a thirst. He was drunk as a lord last night."

I knew Mul was a liar, because Marks had been with me the night before, and I knew from the way he acted that he wouldn't start in lushing the minute he left me.

Anyways, I hope he meets that kid of his soon. I'll stand for it if it 'll make Marks feel better and keep him sober.

But, gee! It 'll be a long time before I stack up against eats like he bought me.

WRECK OF CHINESE WAR-TRAIN.

THE COLLAPSE OF THE STEEL BRIDGE AT SINAN-TIEN CHINA, RESULTED IN MORE THAN A SCORE OF DEATHS AND THE ALMOST COMPLETE DESTRUCTION OF A MILITARY TRAIN LOADED WITH FOODSTUFFS. THE MISHAP OCCURRED ON THE HANKOW-PEKING RAILWAY.

FROGS.

Federal Road and Highway Engineer suggested as new place in the President's cabinet.

First use of a locomotive in this country was in 1820, according to the *Erie Railroad Magazine.*

Some of the London suburban railways have reserved ladies' smoking-compartments on certain trains.

Roughly speaking, railroad traffic doubles about every ten or twelve years, according to W. W. Atterbury.

The average mileage per day of freight-cars in 1913 was 26.7; in 1914, 26; in 1915, 25.7; and in 1916 it jumped to 29.1.

Murman Railway, in Russia, running from Petrograd to Alexandroosk, a distance of 930 miles, has been completed.

Cost of materials has gone up so high that railroads find articles which sold for $1 in 1914 would cost an average of $2.19 in 1917.

New statistics show that the steam roads, in three months of 1916, killed in "train accidents" only 100 persons, injuring 1,429.

Both horse and auto failed to transport Massachusetts rural mail-carrier over his snow-covered route; but a mule got him around.

Automobiles for some time have been largely hauled on flat-cars, conveyances of the regular pattern proving insufficient in number.

Hiram Riker, hotel proprietor of Maine, says that of 9,181 guests only 1,851 came by train, the other four-fifths motoring in.

Operating expenses of railways in the United States amounted to $2,373,000,000 last year, while the operating income totaled $3,622,000,000.

The government paid out nearly $100,000,000 in 1915 for the transportation of domestic and foreign mails, exclusive of rural and star routes.

All express records broken when Bass Foundry and Machine Company thus shipped two Corliss engine cylinders, weighing 36,000 pounds.

Lehigh Valley had mileage of 1,442 in 1915, and its freight-cars numbered 44,974, giving it an average of almost 32 cars to every mile of road.

A Western road cleans its locomotives by running them over a weed-grown side-track. The weeds act as a tooth-brush, removing the rough grease.

Texas and Pacific employees are forbidden to smoke cigarettes while on duty. Company is in hands of receivers—not on account of this rule, however.

Origin of the Wheeling and Lake Erie Railroad was a ten-mile track from Carrollton, Ohio, to Oneida, with wooden rails, one-car trains hauled by mules.

Intercar telephones were used on the Pacific Coast Special, bearing automobile men to a convention, and a daily newspaper was printed in the baggage-car.

Each 100 per cent increase in car capacity requires 34 per cent increase in weight of axle, 30 per cent of rail, 40 per cent of car-body, and 10 per cent of wheel.

Diamond Jim Brady, vice-president of the Standard Steel Car Company, left $10,000 to Railroad Employees' Hospital

and many gifts of jewels to railroad officials who were his friends.

New York Telephone Company's new directory contains 410,000 names in its 948 pages. More than 700,000 copies were distributed.

There were 284,767 trainmen of all classes in the United States in 1916. Of these, 203,673 were assigned to road service, and 81,094 to yard service.

All new Pullmans are equipped with curtains split horizontally across the center, thus affording separate curtains for each berth and giving greater privacy.

Chicago, Anamosa and Northern ("Can") and the Atlantic Southern, both Iowa roads, are being torn up, and the rolling-stock and rails shipped to France.

A permit for building an $11,000,000 highway tunnel under the Hudson River from Canal Street, New York, to Jersey City, has been granted by the War Department.

Man committing suicide by exploding nitroglycerin in a Southern Railway passenger-car carried an innocent passenger across the Misty River and injured four others.

In early iron mining days in America pig-iron sold for $40 a ton and steel rails for $130. Before the present war boom they were selling at $15 and $28 a ton respectively.

Several passengers hurt when a number of empty bread baskets, drawn by the air suction caused by a train passing through a depot, were hurled against two coaches and the glass shattered.

Spokane, Washington, has unique car snow-plow. It is equipped with plow at one end and shear at the other. Plow throws snow to either side of track, while shear throws it to one side only. The device is fitted with electrical stoves to keep the crew warm.

A Pullman conductor who makes the round trip from New York to Chicago in four days six times a month, figures that he travels 145,708 miles per year of 292 days. Anybody beat it?

Plot to dynamite a thirty-car train carrying high explosives was frustrated when police of Camden caught man chiseling a hole in Pennsylvania Railroad elevated bridge over which the train passes.

Illinois Division of the Illinois Central is awarded the Harriman Memorial Medal for its record in accident-prevention in 1916. The road carried 50,000 suburban passengers a day without a fatality, and has maintained this record for 65 years.

For the first time since its colonization in 1790, Pitcairn Island, a dot in the Pacific, is to get mail from the United States.

After eleven years of litigation, including four trials and five appeals, Supreme Court of New York awards woman $16,000 damages for the life of her husband, a section boss who was killed by a freight-train.

St. Louis-San Francisco officials ask school boards in towns on route to change time of assembly, when it coincides with passage of fast trains through the town, so that children will not have to dodge the fliers daily.

Here's a puzzle: There are 144,070 clerks employed by United States railroads. Each uses a pencil in eight working-days. If each pencil weighed an ounce and displaced one cubic inch of space, how many average-sized box cars or fraction thereof would be required to transport a year's supply?

SEEN THROUGH THE CAR-WINDOW.

MAJESTIC MULTNOMAH FALLS, ON THE UNION PACIFIC, MADE WORTH WHILE THE EXPENDITURE OF $2,000,000 FOR THE COLUMBIA RIVER HIGHWAY THROUGH THE CASCADE MOUNTAINS

RAILROADS MERGED DURING WAR.

THE railroads of the United States, in order to produce a maximum of national transportation efficiency during the war, have agreed to coordinate their operations in a continental railway system and to merge all their competitive activities, according to an announcement by the Special Committee on National Defense of the American Railway Association

This action of the railroads was taken at a meeting in Washington, when the presidents of the carriers pledged the railroads, "with the government of the United States, with the governments of the several States, and with one another, that during the present war they will coordinate their operations in a continental railway system, merging during such period all their merely individual and competitive activities in the effort to produce a maximum of national transportation efficiency. To this end they hereby agree to create an organization which shall have general authority to formulate in detail and from time to time a policy of operation of all or any of the railways, which policy, when and as announced by such temporary organization, shall be accepted and earnestly made effective by the several managements of the individual railroad companies here represented."

The direction of this continental railway system has been placed in the hands of an executive committee of the special committee of national defense of the American Railway Association, composed of Fairfax Harrison, president Southern Railway system, chairman; Howard Elliott, New York, New Haven and Hartford Railroad; Julius Kruttschnitt, chairman executive committee Southern Pacific Company; Hale Holden, president Chicago, Burlington and Quincy Railroad, and Samuel Rea, president Pennsylvania Railroad.

In addition to these officials, a member of the Interstate Commerce Commission, and Daniel Willard, president of the Baltimore and Ohio Railroad, as the representative of the Advisory Commission of the Council of National Defense, have been asked to become members ex-officio of this executive committee.

The plan of operation covers all service of the railroads—that on behalf of the public as well as that of the government.

On February 16 the executive committee of the American Railway Association met in New York and adopted a resolution providing that fourteen members be added to the special committee on cooperation with the military authorities, including Fairfax Harrison, as general chairman, so as to constitute a committee of eighteen members, to represent the railways in connection with the work which the National Council for Defense has in hand, the membership of the committee to be representative of the four army departments into which the country is divided.

W. W. Atterbury, vice-president of the Pennsylvania Railroad and president of the American Railway Association, at the same time sent a telegram to the president of every railroad in the United States requesting cooperation of each member of the association with the special committee in the work of the National Council for Defense.

Plans for an organization were immediately perfected, and on April 5 Fairfax Harrison, chairman of the special committee on national defense, authorized the statement that the railroads of the United States, acting through the American Railway Association, have arranged to put at the service of the government and to give preferential use of all facilities which may be needed for national defense. He said:

"The plan of operation worked out here is in distinct contrast to that adopted in England at the outset of the war. There the government immediately assumed responsibility for operation of the railroads, and exercised its authority to that end through a committee composed of the heads of the principal lines. The government guaranteed that net earnings of the companies would continue to be what they had been before the war started.

"In this country the plan is that the government shall advise the railroads what service it requires, and the responsibility will be upon the railroad managers to provide that service. When working to that end, the railroads of the country will be operated practically as one system.

"This plan places responsibility upon experienced railroad officers for producing results, and the government's only function in this connection is to determine what its requirements are. It is the belief of the railroad companies that this will not only work out for efficiency of service but for economy in operation as well.

"The above plan of cooperation between the government and the railroads is felt to be most desirable, and the railroads are keenly appreciative of this opportunity to demonstrate to the country at large the value in time of war of railroads with elastic management.

"It is believed that the transportation companies will be able to afford to the government expeditiously all the service it may require, without substantial interference with the commercial business of the country. Government business will, of course, receive preferential movement, but it is not anticipated that ordinary traffic will experience abnormal delays."

By the Light of the Lantern

Ask us what you want to know

WE want to be as useful as possible to our readers, but, because of the great popularity of this department, we are obliged to impose certain restrictions. It is limited to the answering of questions of an informative, technical, or historical nature concerning the railroad business and allied occupations only. We cannot answer requests for positions or give information regarding employment. All letters should be signed with the full name of the writer, as an indication of his good faith. We will print only his initials. The editor begs that readers sending in questions will not be disappointed if the answers do not appear as early as expected. It frequently takes weeks to secure correct answers, owing to the complexity of the questions. All questions are answered free of charge. The editor earnestly requests his readers to bring immediately to his attention any errors they may find in this department. He reserves the right to refrain from answering any question.

IMPOSSIBLE!

L. P. L., Oakland, California, writes: One of the favorite indoor sports is putting one over on the editor of the By the Light of the Lantern Department. To do this, I must admit, necessitates getting up "only in the marnin'," like they say John D. does.

However, here is one that has you both going and coming. In your answer to F. J., on page 621 of the April issue, you state that "A I" was probably in San Francisco recently. In looking over some old copies of the RAILROAD MAN'S MAGAZINE, I found a special article in the January, 1913, number, which states that the famous hobo fell off an express-train on September 26, 1912, and was killed

If this article was correct, then your answer was wrong. If you're right, then the chap that put A I in the wooden box was wrong. Hoping this will get your goat.

Your hopes or wishes will never be realized on a subject of this kind, my friend. Even if you would trim the wick of the Light of the Lantern it won't go here.

What care we for what A I may be doing at this writing? For all we know there may be any number of tramps or brake beam tourists that are to-day traveling as the original A I

Our answer, which you have criticised, was based on a clipping from one of the California newspapers, which reported a visit to that State of what was supposed to be the original A I, but did not state whence he came

Under the circumstances, the author of the article in the January, 1913, issue may have been wrong, and so may we in our answer to F. J., to which you refer; but if you think that the editor of the Light of the Lantern follows closely the movements of such things as A I, you misconstrue the object of this department of the RAILROAD MAN'S MAGAZINE.

Current magazines of the week in which this answer is written contain portraits of an A I looking quite natural in his home at Erie, Pennsylvania

Help us in dispensing real light on railroad matters, but don't resort to such tricks in an endeavor to put one over on us.

VALUE OF INVENTIONS.

F. DeB., Brooklyn, New York.—Railroad men, as a rule, use or come in contact with more successful inventions than the average man, and as a result are inclined to overestimate the value of inventions and patents generally.

It is the opinion of the editor of this department, who has had years of experience among railroad men, that they are about as fertile a field for what is known as "stock-jobbing propositions" as any other class of men in this broad land.

Perhaps we have learned our lesson, so to speak, but we know from the experience of others as well. We know of any number of instances, and could, if permitted, mention a case where scarcely a single man on a division local to New York was not in on a development scheme that was no development, and was never intended to be such, because some division officials were unwittingly parties to the scheme

We cannot render opinions in regard to the merits, *et cetera*, of the various things offered We know of several being peddled for over two years, but the promoters could not show us a single practical application of their plan, yet their literature, actually or by implication,

By th... Ask us
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switcher as 0—8—0, and so on This system is in most general use.

AMERICAN LOCOMOTIVE COMPANY.

The locomotive classification adopted by the American Locomotive Company is based on the representation by numerals of the number and arrangement of the wheels, commencing at the front. Thus, a Mogul locomotive with a two-wheel leading truck, six driving-wheels, and no trailing truck, would be classified as 260.

The total weight is expressed in thousands of pounds. For example, an Atlantic locomotive weighing 176,000 pounds would be classified as a 442—176 type.

If the engine is compound, the letter C should be substituted for the dash: thus, 442 C 176 type. If tanks are used in place of a separate tender, the letter T should be used in place of the dash.

Thus, a double-end
two-wheeled leading-tr
wheeled rear-truck, w
would be a 266 T 214

BALDWIN LOCO

The Baldwin Locomt
employs figures and lette
ber of wheels of different
cylinders. A locomotive
driving-wheels is classed as
pairs, "C," with three pa
pairs, "E," and with five
The letter "A" is used f
high-speed locomotive with
driving-wheels, and for a sm
rack rail service.

type used for

In articulated locomotives a letter, as above, is used to designate the number of driving-wheels in each group. A figure is used as an initial to indicate the total number of wheels under the locomotive, and the letter, as stated above, indicates the number of driving-wheels.

The size of the cylinder is, of course, not shown in the fourth column, but is represented by a number, which is found by subtracting 3 from the diameter of the cylinder in inches and multiplying the remainder by 2; thus, a 19-inch cylinder would be represented by the number 32, so that a Mogul locomotive with 19-inch cylinders would be termed an 8—32—D

Conversely, the size of cylinder may be obtained by dividing the class designation for cylinder by 2 and adding 3.

When there are trucks at both ends of the locomotive the fraction ¼ is placed after the cylinder number, and when there is a truck at the rear end and none at the front, the fraction is ⅓.

Thus, a Mikado type locomotive with 19-inch cylinders would be a 12—32¼—E, and one of the Forney type would be 8—32⅓—C.

The same rule is carried out in the classification of compound locomotives. In this case, however, a number is given to indicate the diameter of each cylinder, that indicating the high-pressure being written over the low-pressure.

Thus, 10—22/42 D 100 indicates a compound locomotive with ten wheels in all, having high-pressure cylinders 14 inches in diameter and low-pressure cylinders 24 inches in diameter, with three pairs of driving-wheels and the one-hundredth locomotive of its class. This final figure indicating the class-number of the locomotive is used in connection with all engines, regardless of the types to which they belong.

PENNSYLVANIA SYSTEM.

In the classification of Pennsylvania Railroad
es the class of the locomotive is desig-
primary letter and a number to des-
different type of any class, and small
's to indicate some modification of
For instance, the use of the letter
he numeral in a classification indi-
te-tube superheaters are used.
ode of classifying, the locomotives
nto typical classes according to the
heels used under them, irrespective
for which they are intended.

O. CLASSIFICATION.

innati, Ohio.—The following is
method of locomotive classification
of the Baltimore and Ohio Railroad and the number of locomotives in each class:

	Total engines		2,336
A	Atlantic	4—4—2	52
B	10-Wheeler	4—6—0	242
C	4-Wheel Switcher	0—4—0	22
D	6-Wheel Switcher	0—6—0	130
E	Consolidation	2—8—0	1,171
G	American	4—4—0	8
H	American	4—4—0	48
I	American	4—4—0	35
K	Mogul	2—6—0	14
L	8-Wheel Switcher	0—8—0	3
M	American	4—4—0	41
P	Pacific	4—6—2	105
Q	Mikado	2—8—2	372
S	10-Coupled	2—10—2	31
DD	Mallet	0—6—6—0	1
EL	Mallet	2—8—8—0	30
KL	Mallet	2—6—8—0	1
LL	Mallet	0—8—8—0	30

C. AND N. W. CLASSIFICATION.

C. W. H., Lead, South Dakota.—The Chicago and North Western Railway uses the Whyte system of locomotive classification. This system is fully described elsewhere in this de-

switcher as 0—8—0, and so on This system is in most general use.

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The total weight is expressed in thousands of pounds. For example, an Atlantic locomotive weighing 176,000 pounds would be classified as a 442—176 type.

If the engine is compound, the letter C should be substituted for the dash: thus, 442 C 176 type. If tanks are used in place of a separate tender, the letter T should be used in place of the dash.

Thus, a double-end suburban locomotive with two-wheeled leading-truck, six drivers, and six-wheeled rear-truck, weighing 214,000 pounds, would be a 266 T 214 type.

BALDWIN LOCOMOTIVE WORKS.

The Baldwin Locomotive Works's notation employs figures and letters to indicate the number of wheels of different kinds and the size of cylinders. A locomotive having one pair of driving-wheels is classed as "B," that with two pairs, "C," with three pairs, "D," with four pairs, "E," and with five pairs, "F."

The letter "A" is used for a special class of high-speed locomotive with a single pair of driving-wheels, and for a smaller type used for rack-rail service.

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Conversely, the size of cylinder may be obtained by dividing the class designation for cylinder by 2 and adding 3.

When there are trucks at both ends of the locomotive the fraction ¼ is placed after the cylinder number, and when there is a truck at the rear end and none at the front, the fraction is ½.

Thus, a Mikado type locomotive with 19-inch cylinders would be a 12—32¼—E, and one of the Forney type would be 8—32½—C.

The same rule is carried out in the classification of compound locomotives. In this case, however, a number is given to indicate the diameter of each cylinder, that indicating the high-pressure being written over the low-pressure

Thus, 10—22/42 D 100 indicates a compound locomotive with ten wheels in all, having high-pressure cylinders 14 inches in diameter and low-pressure cylinders 24 inches in diameter, with three pairs of driving-wheels and the one-hundredth locomotive of its class. This final figure indicating the class-number of the locomotive is used in connection with all engines, regardless of the types to which they belong.

PENNSYLVANIA SYSTEM.

In the classification of Pennsylvania Railroad locomotives the class of the locomotive is designated by a primary letter and a number to designate the different type of any class, and small suffix letters to indicate some modification of the type. For instance, the use of the letter "S" after the numeral in a classification indicates that fire-tube superheaters are used.

In this mode of classifying, the locomotives are grouped into typical classes according to the number of wheels used under them, irrespective of the service for which they are intended.

B. AND O. CLASSIFICATION.

F. D. C., Cincinnati, Ohio.—The following is the method of locomotive classification of the Baltimore and Ohio Railroad and the number of locomotives in each class:

	Total engines		2,336
A	Atlantic	4—4—2	52
B	10-Wheeler	4—6—0	242
C	4-Wheel Switcher	0—4—0	22
D	6-Wheel Switcher	0—6—0	130
E	Consolidation	2—8—0	1,171
G	American	4—4—0	8
H	American	4—4—0	48
I	American	4—4—0	15
K	Mogul	2—6—0	14
L	8-Wheel Switcher	0—8—0	3
M	American	4—4—0	41
P	Pacific	4—6—2	105
Q	Mikado	2—8—2	372
S	10-Coupled	2—10—2	31
DD	Mallet	0—6—6—0	1
EL	Mallet	2—8—8—0	30
KL	Mallet	2—6—8—0	1
LL	Mallet	0—8—8—0	30

C. AND N. W. CLASSIFICATION.

C. W. H., Lead, South Dakota.—The Chicago and North Western Railway uses the Whyte system of locomotive classification. This system is fully described elsewhere in this de-

partment. At this writing the road referred to has 1,904 locomotives in operation.

INTERCEPTING VALVE.

W. R. S., Emporium, Pennsylvania, writes: What is the intercepting valve on a compound locomotive by means of which a compound is changed to operate as a simple engine?

The device referred to is really a combination valve which is used to deflect the exhaust from the high-pressure cylinders into the stack, and to admit, when desired, live steam to the low-pressure cylinders. It consists of a reducing valve, intercepting valve proper, and a high-pressure exhaust or emergency valve

It is located in the saddle of the left high-pressure cylinder between the receiver and the exhaust passages from the high-pressure cylinders.

The reducing valve controls the admission of live steam from the boiler to the receiver pipe and reduces its pressure so that the low pressure cylinders will do the same work as the high-pressure cylinders.

The intercepting valve opens or closes the receiver pipe to the exhaust from the high pressure cylinders, and the emergency valve permits or prevents the exhaust from escaping through the main exhaust to the atmosphere. When starting, a locomotive uses live steam from the boiler in all cylinders.

The device is practically automatic in its operation, as when the pressure in the receiver rises above the amount to which the reducing valve has been set, the valve automatically closes and cuts off the live steam from the receiver and remains closed until the pressure in the receiver again drops.

The reducing valve is closed by the intercepting valve, which is operated by the exhaust-steam from the high-pressure cylinders after the driving-wheels have made a few revolutions. Thus the locomotive is changed to compound automatically.

When it is desired to prevent the locomotive from operating compound, the engineer opens the emergency exhaust valve which admits the exhaust from the high-pressure cylinders to the stack instead of going through the intercepting valve to the receiver. This causes the intercepting valve to close, which opens the reducing valve and admits live steam directly to the receiver pipe, and thence to the low-pressure cylinders.

COMPOUNDS AS SIMPLE.

2. When, or under what conditions, is it necessary for a compound locomotive to operate as a simple?

When starting, or whenever the entire available tractive power of the locomotive is needed to keep the train moving, as when a train is about to stall on a grade. In regard to your other question, compound engines in numerous forms are used in stationary practise.

THAT NON-FRICTION PIPE.

A. J. B., Lewiston, Maine.—We were more than usually delayed in answering your questions in regard to the article in the *Lewiston Journal* relative to the Robert Spear inventions. However, our answer appeared in this department of the May issue of the RAILROAD MAN'S MAGAZINE, and we have nothing to add to it after an examination of the second clipping from the March 17 issue of the newspaper

Since the railroad men of your district are so thoroughly interested, why do you not interrogate the editor of the *Lewiston Journal* as to the source of such information as he may have?

The railroad men in your locality have never heard of the use of the non friction pipe with which these articles deal, and neither have we, and a careful search of our archives does not disclose that such pipes are, or ever were, used in air-brake practise

As railroad men, how do you and your friends place any credence in newspaper stories wherein the author says that "electricity came to take the place of compressed air and the dreams of the inventor vanished," and that the use of compressed air is confined to braking trains?

Does it not occur to you that the varied and numerous applications of this form of power could not be recounted within the confines of his entire articles?

POUNDS, NOT OUNCES.

A. F. N., Washburn, Maine.—Several readers have drawn our attention to the error on page 607 of the April issue in the article, "Ship by Express!" wherein the author states that prior to the advent of the parcel post the weight limitation for mail matter was four ounces. This should read four pounds. The mistake was probably a typographical error

"THE RAILROAD CLERK."

A. B. J., Detroit, Michigan.—Yes, we have heard of the *Railroad Clerk*, published at Kansas City, Missouri, and are probably as well acquainted with the publication as you are

Will you do us the kindness of again reading our answer to E. L. D., St. Louis, Missouri, which you have criticised. Correspondent wanted to know of a publication devoted exclusively to the yard-clerk

Now, if you are aiding us in giving nothing

but correct information to our correspondents, some of our readers may be interested to know of the *Railroad Clerk;* but if this paper is devoted to the interests of yard clerks exclusively, it is news to the editor of this department

LARGEST RAILROAD YARDS.

2. There are no statistics available that would indicate what is really the largest railroad yard, but we believe the yards of the Chicago Union Transfer Railway at Chicago, Illinois, are the largest. This yard is close on 3,500 acres in extent and is over two and a half miles long, contains over 105 miles of track, and is said to have a capacity of 14,000 cars.

The Harrisburg yards of the Pennsylvania have about 10,000 cars capacity, about 109 miles of track, and the Conway yards of this road over 9,000 cars capacity. These are some of the big ones.

LOCOMOTIVE PHOTOGRAPHS.

J. W. B., St. Louis, Missouri. We know of no way by which you might readily secure photographs of the locomotives to which you refer. No doubt the builders of the engines have photographs of them, but they are not produced for general distribution, as a rule, and we doubt if they could be secured from them or the railroad company operating the engines.

PENNSYLVANIA MALLETS.

2. The use of Mallet compound locomotives on the Pennsylvania is quite limited. They have only two of the Class CC1 and the H H 1 s. In regard to the classification system of the road, the diagram and data published elsewhere in this department give the information you wish

RAILROAD BOOKS.

W. C. S., Athens, Pennsylvania.—"The Walschaert Locomotive Valve-Gear," by W. W. Wood, price $1.50; or "The Valve-Setter's Guide," by James Kennedy, price fifty cents, are two good books that give the particulars in regard to the setting of valves on locomotives equipped with the Walschaert valve-gear. The Railroad Book Supply Company, 3 Jackson Street, New Rochelle, New York, will furnish either of the books for the prices quoted

THE N. Y., S. & W.

2. The present New York, Susquehanna and Western Railroad was chartered 1893, and was a consolidation of the New York, Susquehanna and Western and the Hudson River Railroad and Terminal Company. The former company was a consolidation, in 1881, of the Midland Railroad of New Jersey, the Paterson Extension Railroad, the Midland Connecting Railway, the North Jersey, the Water Gap, and the Pennsylvania Midland Railway Companies

The New York, Susquehanna and Western is controlled by the Erie Railroad through ownership of the majority of the capital stock, but the line is operated independently. At this writing the rolling-stock consists of 100 locomotives, 33,802 freight, and 2,449 passenger-cars

PENNSYLVANIA 4—4—0 TYPES.

H. D. W., Brooklyn, New York, writes: Are the D16b and D16sb the only American type locomotives in use on the Pennsylvania system? If not, will you give the dimensions of the others?

The American type locomotives on the Pennsylvania system are known as the Class D type, and there are no less than fifteen separate and distinct subdivisions of the class. Under the circumstances you will readily understand that we could not give in this department the complete dimensions and variations in the designs of such a number of locomotives.

PENNSYLVANIA LOCOMOTIVES.

2. The following are the dimensions of the type E 1 locomotives of the Pennsylvania Railroad: Cylinders 20½ by 26 inches; steam-pressure per square inch, 185 pounds; diameter of drivers, 80 inches; tractive effort, 21,447 pounds; heating surface, 2,320 square feet; firebox heating surface, 218 square feet; firegrate area, 68 square feet; wheel-base, driving, 7 feet 5 inches; total for engine, 26 feet 6½ inches; weight on drivers, 101,550 pounds; weight of the engine in working order, 173,450 pounds.

The K 1 type engine of this road is a Pacific type, of which the following are the principal dimensions: Cylinders, 26 by 26 inches; steam-pressure per square inch, 175 pounds; diameter of drivers, 80 inches, tractive effort, 32,680 pounds; heating surface, 4,188 square feet; firebox heating surface, 225 square feet; firegrate area, 55.13 square feet; wheel-base, driving, 14 feet 10 inches; total for engine, 36 feet 8 inches; weight on drivers, 186,000 pounds, weight of the engine in working order, 278,800 pounds.

RAILROAD ADMINISTRATION.

D. M. M., Champaign, Illinois.—We cannot be of any great assistance to you through this department of the RAILROAD MAN'S MAGAZINE. Can only suggest that you read some good books on railroad administration and working.

In regard to the trainmaster's business, possibly the little book, "How to be a First-Class Trainmaster," would be of value to you. This sells at fifty cents per copy, and may be obtained from the concern mentioned in our an-

swer to W. C. S., Athens, New York, in this issue

This company can also furnish books on railroad operation and management.

AUTOMATIC STOPS.

M. J. H., Riverdale, New York, writes: I would like to know if a steam locomotive can be stopped automatically by the block-signal system, and if same is in use?

Yes. Any number of devices have been patented and applied to locomotives. Nearly all of the various automatic stops applied experimentally throughout the country embody this feature.

U. P. CLASSIFICATION.

P. J. R., Collyer, Kansas.—On the Union Pacific system the locomotive classification scheme includes the designation of the different types by letters. Thus, the Atlantic type is "A," Pacific type "P," consolidation "C," eight-wheel "E," ten-wheel "T," Mikado "MK," Moguls "M," Mallet consolidations "MC," switch engines "S," *et cetera*.

Various prefix figures and letters are employed to indicate modifications in design For example, you may see stenciled on the cab of the engines of this road, "MK 63 $\frac{26}{28}$ 214 s."

This would indicate that the engine was of the Mikado type, the numeral 63 indicating the diameter of the drivers in inches, the numerator of the fraction the diameter, and the denominator the stroke of the cylinders

The following numeral, 214, indicates the nearest number of thousands of pounds on driving wheels, while the letter s is added to show that the engine is a superheater.

UNION PACIFIC LOCO'S.

2. The following is the number of engines on the Union Pacific system: Union Pacific Railroad, 844; Oregon Short Line, 353; Oregon-Washington Railroad and Navigation Company, 306; a total of 1,503 locomotives.

VANDERBILT FIREBOX.

3. The Vanderbilt locomotive boiler has a corrugated cylindrical firebox that requires no staying. Locomotives in the United States are not now being equipped with fireboxes of this design, although similar fireboxes are used to some extent in Germany and Austria

SIGNAL ENGINEERS.

E. H. S., La Junta, Colorado.—The following are the signal engineers and their location on the roads that you mention: Union Pacific system, F. W. Pfleging, Omaha, Nebraska; Chicago, Rock Island and Pacific Railway, H. K. Lowry, Chicago, Illinois.

JOIN THE NAVY.

A. W. W., Chicago, Illinois, writes: Do you think if I joined the United States navy, and put in four years of service, that I could secure a position as a fireman on a railroad? I will be twenty-one years of age then, but will have had no previous railroad experience.

Yes, the naval service offers excellent opportunities for the training of young men physically, mentally, and in discipline—all necessary requirements for railroad service.

You are too young now to anticipate employment as a fireman on a locomotive at this time, and if we were in your boots, young man, we would not hesitate joining that branch of the government service, if for no reason other than the exceptional opportunities offered within the department itself

RAILS CREEPING.

E. D. K., Waterford, Pennsylvania.—We have considered carefully your problem in regard to the rails on a single-track line creeping in opposite directions, and unless you can tell us something more in regard to the construction of the road bed, weight of rails, and the amount of traffic on both the stretches of track, we cannot tell exactly where the trouble lies.

On single-track roads rail-creeping occurs in the direction of the heaviest traffic.

Tell us, if you can, the exact position of the rails after creeping. Rail-creeping is usually accounted for by the undulatory or wave-motion of the rail that is caused by the passage of each set of wheels under a train and the continued or excessive use of brakes on grades or in approaching stations. Also, there is always more or less creeping on the thinly ballasted tracks or light rails.

However, a man of your long experience is probably aware of all these things

If you will give all details previously referred to, and tell the type of locomotives operating over the line, also kind of road-bed, *et cetera*—in fact, tell us all you know about the situation—we may be able to suggest the cause of the trouble.

RAILROAD COLLEGE.

S. S. S., New York, New York.—Your question is not very explicit, as we are not certain just what branch of railroad work you have in mind. However, the University of Illinois is an excellent institution.

Their School of Railway Engineering and Administration combines certain courses offered by certain colleges of the university so as to pro-

vide training of a scientific character for those who wish to prepare themselves for the engineering, motive-power, traffic, or operating departments of both steam and electric railways.

This university offers four-year courses in railway and civil engineering, railway electric engineering, railway mechanical engineering, railway administration and transportation

Better write to the registrar, University of Illinois, Urbana, Illinois, for catalogs or other information you may wish

BOOK OF RULES.

W. T. A., Republic, Alabama.—We cannot tell you who print the rule-books of the various railroads that you mention Even if we could give you the names of the printers, you could not secure such books from them The only thing that we can suggest is that you communicate with the general superintendents of the railroad companies

SOME C., R. I & P. FIGURES.

C. O. D., East Greenbush, New York.—The Chicago, Rock Island and Pacific operates 7,657 miles, 1,540 locomotives, 47,059 freight-cars, 1,144 passenger-cars, and 1,748 miscellaneous cars. Twenty-seven per cent of the total passenger lines are operated by block signals, 956 miles are operated by automatic block signals, and 1,098 miles by block signals of the non-automatic type.

INTERSTATE COMMERCE RULES.

J. M. H., Kane, Pennsylvania.—We do not know exactly what rule-books you wish Probably you will be able to secure duplicates by communicating with your superior officer in that branch of the Interstate Commerce Commission's work in which you are engaged

We could recommend a number of books giving the boiler-inspection laws and safety-appliance requirements of the commission, but are not certain that this is what you require.

ERIE PACIFICS.

W. M. H., Washington, District of Columbia.—On the Erie Railroad the Pacific-type locomotives are known as the Class K engines, of which there are four subdivisions. In regard to the numbers of them, the class K—1 are numbered 2,510 to 2,568, K—2, 2,000 to 2,904; K—3, 2,500; K—4, 2,700 to 2,733.

LISTS OF RAILWAYS.

F. W. H., Hudson, New York.—We wish we could be of some real assistance to you in securing the position you wish; but one of the stringent restrictions of the Light of the Lantern Department is that we cannot answer questions in regard to employment. The "Official Guide of the Railways" and "The Pocket List of Railroad Officials" contains the names, or lists, of the various railroads. Both these publications are issued at 75 Church Street, New York City.

EQUIPMENT OF ROADS.

J. F. S., Belleville, Ontario.—The Maine Central Railroad operates 1,220 miles, 221 locomotives, 320 passenger-cars, 647 miscellaneous cars, and 9,049 freight-cars.

The Grand Trunk Railway system has in operation 4,785 miles, 1,370 locomotives, 1,161 passenger-cars, 2,121 miscellaneous cars, and 46,796 freight-cars.

Telegraphic & Telephonic

IF there is anything you want to know about the telegraph, telephone, or radio telegraphy—if you have an operating problem that puzzles you—if you want to discuss a question of theory—write the RAILROAD MAN'S MAGAZINE. We have engaged a technical expert who is one of the leading authorities of the country on these subjects. Ask him. He knows!

SLEET ON WIRES.

L. J. S., St. Louis, Missouri.—Sleet-storms are more prevalent throughout the eastern States and in the mountain States of the Northwest than in other parts of the country. Hardly a winter passes without telegraph and telephone wires running through the New England States being subjected to damages due to glaze gathering on the wires.

During a heavy rain-storm if the weather changes suddenly with lowering temperature the rain-water freezes around the wires, rapidly loading them with an excess of weight, causing

the wires to break, sometimes pulling down the poles.

Wind, rain, and varying temperature are the ingredients of a variety of troublesome storms. In the terminology of the weather bureau, these may be "sleet" storms, "ice" storms, or "glaze."

Officially sleet is known as small globules of rain frozen before striking the wires. When rain freezes after falling and forms a glassy surface around the wires, the condition is called a glaze.

ASSOCIATED PRESS CHIEFS.

W. R. P., Pittsburgh, Pennsylvania.—The division traffic chief of the Asssociated Press, at 51 Chambers Street, New York City, is Mr. Jesse Crosswy. At Chicago, Mr. Milton Garges is division traffic chief.

GOVERNMENT EMPLOYMENT.

T. F. G., Terre Haute, Indiana.—Communicate with the Civil Service Commission, Washington, District of Columbia, asking that information be sent to you relative to telegraph positions.

The Signal Corps, United States army, has vacancies for Morse and radio operators. These positions pay from $15 to $90 per month, depending upon rank and service. Information may be obtained by addressing the Chief Signal Officer, United States army, Washington, District of Columbia.

A "SPEAKING" RELAY.

J. A. S., Lake Forest, Illinois.—There have been quite a number of instances reported where telegraph relays connected in telephone circuits have reproduced voice-tones passing over the line. When this occurs the telegraph relay is performing the functions of a telephone receiver

Thin relay armatures are more likely to respond than thick armatures. Undoubtedly you have observed that the diaphragm of a telephone receiver is firmly held by the pole-pieces of a permanent magnet, and that the diaphragm vibrates only when voice-currents pass through the coils of wire wound around the core extensions of the permanent magnet of the receiver. A telegraph relay armature is susceptible to the same influence

TELEGRAPH SCHOOLS.

J. L. B., Boston, Massachusetts.—Both of the telegraph schools you mention are reliable. If you desire to learn telegraphy in Canada, you could very likely secure a place as station assistant with the privilege of practising telegraphy when not needed for regular duties. If you decide upon this course, communicate with Mr. J. McMillan, manager of telegraphs, Canadian Pacific Railway Company, Montreal, Quebec.

BERTHA M., Hannibal, Missouri.—We do not know of any telegraph school in your immediate neighborhood, but very likely you could obtain permission to learn the business in the Hannibal office of either the Western Union or Postal Telegraph companies. Write to Mr. W. W. Morrison, Postal Telegraph Cable Company, St. Louis, Missouri, asking for information as to where you should apply.

We think the time is not far distant when women will be eligible for employment as telegraphers in the government service

L. R., Concordia, Kansas.—Graduation from the school you mention will place you well along the road toward success. Possibly, after you leave the school, you will have to break in as station assistant for a month or two before being assigned to a regular position as operator.

C., R. I. & P. RY.

T. G. F., Sandwich, Illinois.—We have not on file the names of the present chief operators of the Western Union Company at Denver and Salt Lake City, but if you address a letter to the "Chief Operator" of the company in each of those cities, your letter will reach the right person.

Mr. W. R. Wray is superintendent of telegraph, Chicago, Rock Island and Pacific Railway Company, Chicago.

W. U. 8-HOUR DAY.

H. H. E., Merrill, Wisconsin.—Effective May 1, the Western Union Company granted an eight hour day to all employees in functional main and functional branch offices. The new rating applies to plant-department employees, so far as that is practicable in arranging definite hours of duty.

MORSE PHONOGRAPH RECORDS.

J. J. K., Vancouver, British Columbia.—The Morse phonograph records available at the present time include a set of eight, carrying from forty to eighty words on each side. By regulating the speed of the phonograph, the speed of the Morse reproduction can be varied from ten to thirty five words per minute.

The reproduction is very clear, and is loud enough to be heard fifty feet away from the phonograph.

There is also one radio record for sale. The

impression was made from regulation key and buzzer sending, closely resembling radio signals as heard in phone receivers.

Records may be obtained from the Railroad Book Supply Company, 3 Jackson Street, New Rochelle, New York.

WINNIPEG CHIEF OPERATORS.

G. L. S., Los Angeles, California.—The chief operators of the Winnipeg, Manitoba, Canadian Pacific Railway commercial office are —P. G. Bowman, W. H. Conklin, R. J. Pennie, E. L. Weaver, R. M. Russell, J. V. Duncan, R. E Jones, W. J. Kane, and S. J. Greenway. About sixty telegraphers are employed in the main office, and twelve in the grain exchange office.

At the Winnipeg Canadian Pacific Railway depot office eighteen telegraphers are employed

THE TELEPOST.

J. N. J., Portland, Maine.—The Telepost Telegraph Company still is in existence. Some of the lines opened for public service ten years ago have been abandoned The company operates a high-speed system invented by Mr. P B Delaney, in which perforated transmitting-tape is passed through an automatic transmitter, passing the signals over the line at a speed of one thousand words per minute. At the receiving end the dots and dashes of the signals appear in Morse characters upon a band of tape.

DUPLEX AND DIPLEX.

H. L. S., Toledo, Ohio.—A duplex system of telegraph provides for simultaneous transmission of two messages, one in each direction. The diplex system provides for the simultaneous transmission of two messages, both in one direction.

RESISTANCE OF THE EARTH.

WILLIAM H., Chicago, Illinois.—The electrical resistance of the earth to telephone and telegraph currents, theoretically, is supposed to be *nil*. In practise it may be found that there is a slight resistance, sometimes as much as three or four ohms, due to poor contact between ground wires and the subsurface strata of the soil.

HAZE, MIST, FOG, DEW.

H. B. R., San Francisco, California.—When telegraph wires are fog-bound, sometimes it is impossible to operate circuits of a length greater than forty or fifty miles Even to maintain satisfactory operation over such relatively short distances often it is necessary to increase the strength of terminal batteries to double the regular voltage

A haze is a species of vapor in which the watery particles are only partially or imperfectly condensed, producing indefinite obscuration. When the watery vapor in the surrounding air becomes more condensed, with a defined outline in the form of a cloud, either resting upon the surface of the earth or suspended a few feet above it, it is termed a mist.

When the whole atmosphere appears equally obscured, the condition is known as fog. Mists as well as fogs consist of thin vesicles of water containing air, probably created by unequal temperatures at different points in the atmosphere, holding moisture in solution.

Dew is a result of alteration of temperature after sunset, causing condensation. When the precipitation is considerable the cross-arms of telegraph-poles have a film or layer of moisture deposited upon their surfaces, as well as that which accumulates upon the surface of the glass insulators, and, this condition existing at each pole, in the aggregate permits leakage of a considerable amount of the current from individual wires into other wires on the same pole-line.

MEANING OF "MORKRUM."

H. L. D., Danville, Illinois.—The Morkrum printing-telegraph system is so named in order to combine the names of the inventor and the financial backer of the system—namely, Messrs. Morton and Krum, Mr. Krum being the inventor.

FREQUENCY OF A. C. GENERATOR.

H. L. D., Great Falls, Montana.—Alternations equal the number of poles of the generator multiplied by the revolutions per minute of the armature. Cycles equal the number of pairs of poles multiplied by revolutions per second of the armature. Sixty cycles are equivalent to 120 alternations.

INDUCTANCE AND CAPACITY.

HAROLD M, Syracuse, New York.—Inductance (L) in microhenries equals the inductance (L) in centimeters divided by one thousand. One thousand centimeters equals one microhenry

Capacity in centimeters divided by 900,000 equals the capacity in microfarads.

HEIGHT OF POLES.

L. M. C., Buffalo, New York.—If there is sufficient sunlight at the time, it is a comparatively easy matter to calculate the height of a telephone or telegraph pole, flag-pole, or mast Drive a light, wooden rod about six or eight feet

in length into the ground a sufficient distance to hold the rod in a vertical position.

Measure the length of the rod above the earth, then measure the length of the shadow cast by the rod; also the length of the shadow cast by the pole or other object whose height is to be determined. Multiply the length in feet of the shadow of the pole by the actual length in feet of the small rod above the ground, and divide the product by the length in feet of the shadow of the rod.

STORAGE BATTERY.

J. L. S., St. Louis, Missouri.—The discharge voltage of one cell of storage battery is two volts, approximately. To find the total voltage on discharge, or load, of a bank of cells, multiply by two the number of cells connected in series. The current capacity, or ampere-hour capacity of a cell depends upon the size of the plates and the number of plates in each cell.

TELEGRAPH ENGINEERS' EXAM.

GEORGE W. G., Tacoma, Washington.—There is no standard examination for telegraph electricians or engineers. Recently, in a technical course conducted for telegraph and telephone experts, the final written examination consisted of fifty questions, from which list I have selected ten of the less involved questions, and quote them herewith:

1. If a gravity battery of fifty cells is arranged, twenty-five in series and two in parallel, what is the total battery resistance assuming that each cell has an internal resistance of two and one-half ohms?

2. What is the joint resistance of three wires having individual resistance of 160 ohms, 900 ohms, and 220 ohms?

3. Required a shunt which will permit one-fourth of the total current in a circuit to flow through a fifty-ohm galvanometer: what must be the resistance of the shunt?

4. If a single telegraph wire has a total resistance of 1,200 ohms, and an applied e.m.f. of 200 volts, what is the difference of potential between line-wire and ground at a point 220 ohms distant from the end of the wire at which battery is applied?

5. If a circuit has the following values: Resistance, 900 ohms; inductance, 4 henries; and a current operating at sixty cycles per second is flowing through it, what is the impedance in ohms of the circuit?

6. What is the time-constant of a circuit having an inductance of eight henries and a resistance of 82 ohms?

7. What is the time-constant of a circuit having an inductance of three henries to which an e.m.f. of forty volts is applied, and in which a current of 125 milliamperes is flowing?

8. How many cells of gravity battery are required to supply .038 ampere in a circuit having a line resistance of 820 ohms, and an instrument resistance of 300 ohms?

9. If a battery of 200 volts gravity feeds four lines simultaneously, one wire having a resistance of 1,800 ohms, another 1,600 ohms, the third 1,200 ohms, and the fourth 1,400 ohms, (a) What is the current strength in the 1,800-ohm circuit when that circuit is closed while the other three are open? (b) What would be the current strength in the 1,200-ohm circuit with all four circuits closed?

10. What would be the current value in the 1,800-ohm circuit in (9a) if a motor-generator were used in place of a gravity battery, the generator having a voltage of 200?

FREE WIRELESS COURSE.

THE urgent demand for radio operators to fill positions now vacant and new positions to be established has prompted the Marconi Company to throw open its schools to telegraphers who desire to become radio operators and electricians.

Morse operators who have had experience in handling message traffic, and who have a leaning toward mechanics and electrical work, make first-class radio operators. Young men who wish to learn the art of radio, with assurance that positions will be provided as soon as the applicant is qualified, may enter the Marconi Schools without tuition expense. For particulars address Instructing Engineer, Marconi Wireless Telegraph Company of America, 25 Elm Street, New York City.

The Relocating Engineer Says:

Life would be a soft proposition if it had nothing worse than 1 per cent grades and 6-degree curves

From the Railroad Man's Magazine

NEW USE FOR SCRAPPED ENGINES.

Southern Railroad Has Novel Method for Increasing the Power of Its Freight Locomotives Cheaply.

BY B. L. ROBERTSON.

HOW the Southern Railroad increased the tractive force of its locomotives thirty-nine per cent by putting tender tanks on the machinery of discarded engines and hooking them up with the locomotives is the story of the new duplex 2-8-2 + 2-8-0 now in operation on the company's Asheville Division.

A sixty-nine-mile stretch of single track on the Southern's right-of-way lying between Asheville, North Carolina, and Hayne, South Carolina, became badly congested. Mr. J. Hainen, superintendent of motive power and equipment, found himself up against it. Among other things he had to contend with was a three-mile stretch that had a four per cent grade, a climb which the new engines built by the Southern had to tackle as part of each day's work.

Fewer Trains and More Speed.

So Mr. Hainen worked out this new type of locomotive, which not only has a much greater tractive effort, but has resulted in a reduction of the number of trains needed and an increase in their speed. So successful, in fact, has the expedient proved that in the past year seven of these duplexes have been built at the company's shops at Spencer, North Carolina.

No new cylinders, running-gear or wheels were bought to construct this novel type of locomotive. All the builders had to do was to utilize parts of scrapped moguls and consolidation engines. The cost of the whole thing therefore was so low as to prove one of its greatest attractions.

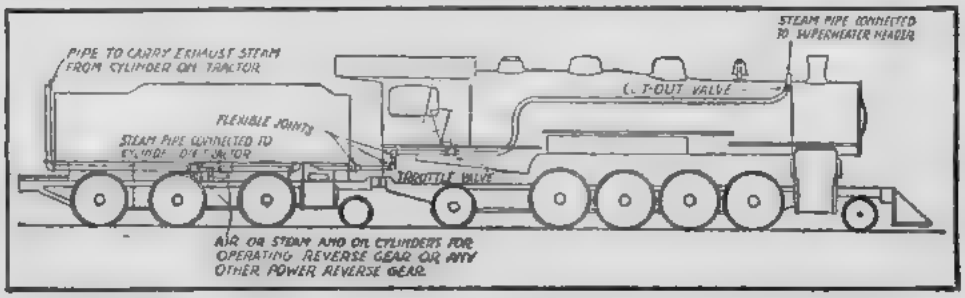
Why It Was Cheap.

From the old hogs they got frames, cylinders, axles, wheels, side-rods and valve-motion complete. Specially designed carriers were used to mount the tanks of Mikado tenders in the position formerly occupied by the boiler of the engines. The auxiliary engine, with 7,500 gallons of water and 12 tons of coal, carries a maximum weight of 176,000 pounds and a minimum of 100,000, leaving a mean of 138,000 pounds.

An interesting feature of this new du-

plex which is illustrated clearly in the accompanying cuts is the flexible piping for carrying steam to the auxiliary cylinders and the arrangement of pipes for taking the exhaust steam away. Steam

The cylinder saddle on the auxiliary engine was not cut or altered in any way, and the water-bottom of the tank was cut into, in order to provide room for the saddle.


PIPE TO CARRY EXHAUST STEAM FROM CYLINDER ON TRACTOR
STEAM PIPE CONNECTED TO SUPERHEATER HEADER
FLEXIBLE JOINTS
THROTTLE VALVE
AIR OR STEAM AND OIL CYLINDERS FOR OPERATING REVERSE GEAR OR ANY OTHER POWER REVERSE GEAR

OUTLINE OF A SOUTHERN DUPLEX SIMILAR IN CONSTRUCTION TO THE 2-8-2 + 2-8-0.

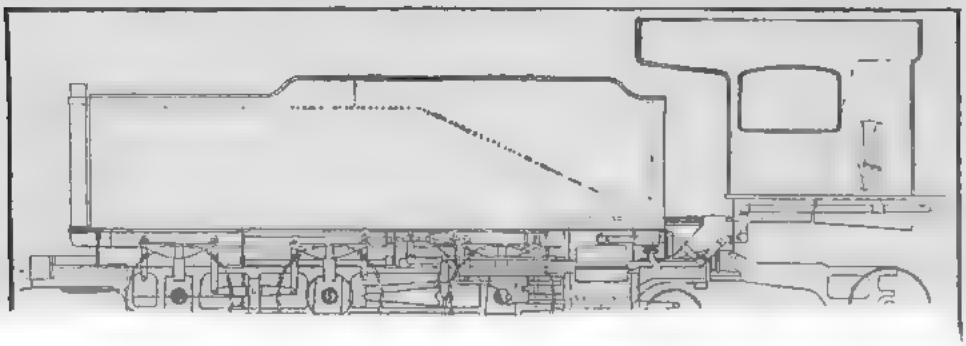
taken from the top of the superheater header is conducted in a jacketed pipe to the flexible elbow and steam-pipe to the auxiliary cylinders.

Live steam does not reach the auxiliary valve-chambers in the ordinary way. In this engine, the chambers are blocked up and steam passes through a pipe tapped into the valve-chamber on the outside.

Nevertheless, this does not subtract much from the contents of the tank. It also gives room for the exhaust elbow.

Six passenger and a number of freight trains are run daily on the part of the Southern's road where these locomotives are in use. The grades are 1.5 and 1.7 per cent.

The single Mikado, formerly used, when



"ASK THE TRAVELERS' AID SOCIETY."

American Societies Gave Free Help to More Than Three-Quarters of a Million Bewildered Pilgrims in a Single Twelvemonth.

MANY GIRLS SAVED FROM CITY PITFALLS.

Workers Meet Trains and Boats, Ready to Guide, Advise, and Protect—Know Many Languages—Esther Gunderson Carried On the Work for Years, Single-Handed and without a Dollar—Organizations Now in 39 States of the Union and 7 Canadian Provinces.

BY GEORGE FOXHALL.

ON the docks of the big steamship companies, or in the crowded railroad terminals of a great city you have perhaps seen an alert, plainly dressed woman, wearing a badge marked "Travelers' Aid Society." Then, if you were puzzled and wanted to know what it was all about, you might have found the answer on the society's placard, prominently displayed in most of the large railway stations. It reads:

> **TRAVELERS' AID SOCIETY.**
> **465 Lexington Avenue, New York.**
> A Non-Sectarian Protective Organization to Assist Travelers.
>
> Travelers, especially girls, women, and children, in need of any assistance may apply to Travelers' Aid Society for information, advice, guidance, protection, and aid without charge. The assistance is absolutely free; fee not being accepted. Apply at Information Bureau, to any railroad official, matron, or telephone Murray Hill 323, and an agent, wearing this badge, will immediately be sent to the station.

This, in a general way, indicates the nature and purpose of the society; but the traveler has doubtless wondered how such a society of free aid came to be formed, who were its founders, how it is supported, and, specifically, how it does its work.

Girls Disappear by Thousands.

General Theodore Bingham, some years ago police commissioner of New York, is quoted as having stated that "Fifty thousand young women and girls are lost in the United States every year. They simply drop out of existence."

According to the report of the Immigration League of Chicago for 1910, 1,700 young women and girls totally disappeared between the port of New York and Chicago in one year. All efforts to trace them failed.

Although the Travelers' Aid Society does not confine itself exclusively to helping women and girls, it is in the attempt to meet the conditions indicated by these statements that it finds its chief field of activity. It is not an antivice society. It is a society for the help of the helpless.

Its work does not take it as a prosecuting-agent or witness into the police courts. Its methods are not such as to at-

A TYPICAL SCENE IN THE RAILWAY STATION OF A LARGE CITY. THE SOCIETY'S AGENT IS TAKING CARE OF A LADY WHO IS TRAVELING ALONE WITH HER DAUGHTER, AND WHO HAS JUST REACHED A CITY WHERE SHE IS A STRANGER. MORE THAN 146,000 PERSONS HAVE BEEN HELPED THUS FAR BY THE ORGANIZATION

tract publicity, but are designed to give a maximum of help to its protégés as unobtrusively and privately as possible.

For example: A transatlantic liner has just docked. Three Travelers' Aid workers have been assigned to her. If she is from a Mediterranean port there are likely to be on board passengers speaking any one of eight or nine languages. For that reason at least one of the workers will probably be a linguist of astonishing range.

From the immigration officials is obtained a list of the girls traveling alone, together with such information as where they are bound, whom they are about to join, and such other information as the government forms supply. There is on board, we will suppose, a girl who has been sent for by her fiancé. For some reason he is not at the dock to meet her.

Before long the girl has told her new friend all about Antonio.

In the mean time things are beginning to move smoothly and easily. The un-

MR. ORIN C. BAKER, GENERAL SECRETARY OF THE ORGANIZATION. HE HANDLED THE MAMMOTH PROBLEM OF CARING FOR THOUSANDS AT THE SAN FRANCISCO EXPOSITION.
Photo by Otto Sarony Co.

expected friend explains that because Antonio has not come, and she is quite alone, the government people will allow her to come into America under the care of the good society which she represents; that the society will then find Antonio for her, and will see that she is properly cared for.

Then efforts are made to locate Antonio around the dock, and, these failing, the girl, usually with a number of others, is taken to the Travelers' Aid headquarters. If telephoning fails to discover Antonio, a worker goes to investigate the address on the girl's letter.

Checking Up on Antonio.

Perhaps she finds Antonio living with his mother or married sister, obviously quite respectable. He thought the boat did not arrive until to-morrow. He is taken to Travelers' Aid headquarters, accompanied probably by his mother or sister.

In the mean time other inquiries are being made. The family's clergyman, it seems, knows the family well, and speaks highly of them. Soon the girl is bound for home.

But suppose the worker finds that Antonio is living alone. He has left his old lodgings and taken a flat. She finds him there, surprised that the boat has come so soon. He is told where Maria is, and that he will be able to see her, but that she will stay to-night at Travelers' Aid home.

To-morrow he may come and take her away, but with them will go one of Maria's Travelers' Aid friends, and they will all go to the City Hall, where the Travelers' Aid friend will be a witness at their wedding.

In the extremely rare event of the investigation proving Antonio to be a worthless fellow, with no intention of marrying Maria, or legally unable to do so, the girl is kept at Travelers' Aid until a suitable position can be found for her, and she becomes a ward of the society.

If this cannot be done immediately she is sent to one of the benevolent homes for girls, which operate at cost, where a room

PHILADELPHIA
The AGENT of the
TRAVELLERS' AID SOCIETY
May be found in the Station for the Assistance of STRANGERS
L'Agente di questa
SOCIETÀ PER L'AIUTO DEI VIAGGIATORI
HILFSGESELLSCHAFT FÜR REISENDE
STOWARZYSZENIA POMOCY DLA PODRÓŻUJĄCYCH

IN THE RAILWAY STATION OF ALMOST EVERY BIG CITY IN AMERICA THERE IS A POSTER LIKE THIS INFORMING THE STRANGER IN SEVERAL LANGUAGES THAT SHE (OR HE) CAN GET HELP BY LOOKING FOR THE SOCIETY'S AGENT.

and board are provided for her at three dollars a week, a charge which any girl allowed to land at all from Europe is in a position to pay. Usually, however, the next day finds her installed in a respectable and comfortable home.

Runaways at the Railroad Station.

This, in a general way, illustrates the work at the docks. At the stations the best mode of procedure is not always so clearly defined. The girls and women arriving at the stations are frequently American. Sometimes they are runaways.

Often, even when they are puzzled, they will not readily accept the help of an outsider in solving their difficulties. There is not the help of government regulation to enable the society's workers to know at once their circumstances or to prevent them from entering the city without proper guardianship.

Very often, however, they are looking for, or are glad to get, just such help as the society offers. Not infrequently, di-

rected by the society's placards, they go direct to headquarters themselves for help. Through the same agency hundreds of men and boys avail themselves of the society's guidance every year.

So far, in speaking of Travelers' Aid, the reference has been to the Travelers' Aid Society of New York, the pioneer non-sectarian organization in this country devoted exclusively to that work; but there are throughout the country, many societies doing similar work, and all to some extent are cooperative. The movement, however, is a modern one. The New York society was incorporated in 1907, though its activity dates further back to an earlier period than that.

OFFICIAL BADGE OF THE TRAVELERS' AID SOCIETY WORN BY NEARLY 1,500 AGENTS IN AMERICA.

The first movement toward travelers' aid in this country was made in 1866, by the Boston Y. W. C. A. The first non-sectarian movement was made in New York in 1885, by two Quakers, Edward Prior and William Collins.

These men, stirred by the stories that at this time began to appear in the newspapers, and by the sensational exposé of conditions in London by William T. Stead, engaged Miss Etta Clark to meet young girls and women traveling alone, at docks and railroad stations, and give them the kind of guidance that the Travelers' Aid Society is now giving on a larger scale.

THE JAPANESE REPRESENTATIVES WEAR THIS INSIGNIA, WHICH SAYS: "TRAVELERS' AID OF THE Y. W. C. A. OF JAPAN"

When Miss Clark's marriage caused her resignation, Miss Esther Gunderson took up the work, and about the same time responsibility for it was taken over by the Bible and Fruit Mission for the New York Hospital. This was in 1888.

Ten years later the Bible and Fruit Mission went out of existence, and for three years and three months Miss Gunderson carried on the work alone. She had no financial resources of her own, but by dint of a few dollars contributed here and there, and helped by her own single-hearted devotion to the work, she managed to keep it afloat until, in March, 1901, it was taken over by the New York Female Bible Auxiliary Society.

In 1905, Miss Grace H. Dodge, having become familiar with conditions of travel through study of protective work at the St. Louis Exposition, sent out an invitation to various prominent workers in women's benevolent and protective societies, embracing all sects, to meet at her house to consider what could be done toward founding a permanent corrective for those conditions.

A preliminary survey was made. This naturally brought Miss Gunderson and her work to notice, and she was asked to appear before the committee. The body was constituted into the Travelers' Aid Committee. It immediately took upon itself partial responsibility for Miss Gunderson's work, and in 1906 the entire work, which was the nucleus of the present Travelers' Aid Society, was handed over to the committee by the Female Bible Auxiliary Society.

The immediate development of the work showed the need of placing it upon a permanent footing, and in January, 1907, the Travelers' Aid Society was incorporated under the laws of the State of New York. For four more years it remained under the guidance of the committee, but in 1911 it had developed beyond the stage when it could be controlled and financed within such limitations, and the present board of directors was elected and a general secretary secured to bring the highest organized efficiency to the work.

Helps Hundreds Every Week.

How effectively this was done may be gathered by a glance at the comparative

statement summarizing the society's work in cold figures.

In 1910 the society definitely helped 7,332 persons. In 1911, the first year of the present system, it helped 12,281. In 1916 it definitely helped 31,724, and incidentally helped—that is, gave help of not sufficient importance to be registered as a "case"—10,299 persons.

Of these, in 1910, 2,032 were assisted at the docks, 4,853 at the stations, and 447 applied for help at the office. In 1916 the docks provided 7,355 helpless ones—a reduction of more than 10,000 from 1913 on account of the war—the stations 13,284—an increase of more than 7,000 over 1913—while 804 applied directly to the office.

Also, during 1916 the society gave 2,508 meals to unfortunate travelers, and at least one night's lodging to 1,417. From the beginning of the work to December 31, 1916, the available records show a total number of 146,115 persons definitely helped. To defray the cost of this work the society had an income last year of $47,000—a record figure.

To many of those assisted shelter and food were given for from one day to one week. On behalf of many others expensive telegraphic or telephonic communication was entailed, while over thirty workers were employed constantly to cover the railroad terminals and steamship lines, and a large house maintained as headquarters.

1910 Sees National Organization Planned.

It began to be felt, as early as 1910, that a national organization was imperative, and the general secretary, Orin C. Baker, was sent among the Travelers' Aid workers in the various big cities, as far as the Pacific Coast. The first national conference to consider travelers' aid work exclusively was held on May 4, 5, and 6, at the New York headquarters.

The plan for a national organization, however, was interrupted by the death of Miss Dodge, the chief financial supporter of the New York Society, and the most active worker in the effort for national coordination. Another interruption came through the Panama-Pacific Exposition.

The services of the New York general secretary had been asked for for the organization of the California Travelers' Aid Society. Later he was again lent by the New York society to supervise Travelers' Aid work at the exposition.

How vast that work was, and how well it was and is being done may be gathered from the statement that the helpless travelers cared for by the California society at the stations, docks, and exposition grounds, were in excess of 125,000.

Cooperation Leads to Rapid Growth.

But if the movement for a national executive body was at a standstill, the cooperative plan begun in 1911 was not. Travelers' Aid Societies had sprung up in practically all of the larger cities, and in smaller cities, villages, and rural communities where no regularly organized Travelers' Aid existed, cooperation was formed through other organizations and individuals.

If, for example, a girl leaves her home in some rural community, contrary to the wishes of her parents, perhaps even surreptitiously, the Y. W. C. A. representative, or whoever has charge of Travelers' Aid work in that community, communicates with the Travelers' Aid of whatever community the girl may possibly have gone to.

From the detailed description the girl is easily identified, helped to find work and lodgings, if that is desired, or persuaded to return to her home, or detained for the arrival of her parents if that is desired.

Cooperation has also been extended through organizations and individuals in the Hawaiian Islands, the Canal Zone, several places in South America, and through twenty-eight cities in seven provinces in Canada.

It was therefore possible to tabulate that through these cooperative but unfederated societies 717,648 persons were as-

sisted in one hundred and fourteen cities in thirty-nine States in the union, while in the twenty-eight Canadian cities recorded, 50,303 travelers were assisted.

The European war interrupted the plan to widen the scope of Travelers' Aid on international lines, but the interruption is temporary only and by no means complete. For example, the Overseas Welcome, of Glasgow, gives to second and third-cabin passengers for New York City a card bearing the Travelers' Aid Society emblem. This same plan was followed in other countries, the instructions being printed in several different languages, before the war, and will be resumed when the war is over.

137 Groups in U. S.

To summarize the Travelers' Aid bodies which will form the nucleus of the new national society:

There are twenty-nine Travelers' Aid Societies and committees non-sectarian in organization and work, fourteen interdenominational organizations with non-sectarian advisory committees; seventy-two interdenominational organizations, eleven sectarian and denominational organizations, eight business and social organiza-

THROUGH ALL ITS UPS AND DOWNS MISS ESTHER GUNDERSON HAS FOR NEARLY THIRTY YEARS BEEN THE GUIDING SPIRIT OF TRAVELERS' AID WORK WHEN THE ORGANIZATION WAS ALMOST ON THE ROCKS SHE FOUGHT HEROICALLY FOR THREE YEARS TO KEEP IT ALIVE—AND SUCCEEDED MISS GUNDERSON HAS NOW RETIRED FROM ACTIVE WORK

tions, and three city police organizations, making a total of one hundred and thirty-seven organizations doing direct Travelers' Aid work in the United States.

In Canada there are twenty-eight organizations, none of them non-sectarian, but six of them having non-sectarian advisory committees. In a single twelve month these bodies assisted more than three-quarters of a million bewildered travelers.

In spite of the formidable sound of the figures quoted throughout this article it must not be supposed that the work done is in any way commensurate with the need. The need is a constantly expanding thing, and to keep pace with it, and gain upon it until the protection of helpless travelers becomes the rule and not the exception, the work must enlarge tremendously.

Travelers' Aid in New York City is now facing a crisis in its career owing to the death of Miss Dodge, the chief source of its financial support.

The general public has never been asked to support the society. Indeed, the general public is probably quite ignorant of the society's existence, or at any rate, of its functions, although it is really one of the vital veins of the community's circulation.

TO-MORROW.

BY OLIN LYMAN.

THE stage-coach passed in a slather of dust;
The engine came with its sputter and steam;
And yesterday's triumphs are red with rust
While to-day leaps swift to the morrow's dream.

When Watts pinned faith to the kettle's drowse,
And Verne and Morse told their daring dreams,
Their neighbors looked knowing—and touched their brows:
A raven croaks while an eagle screams.

We're crowding the pace as we swarm and strain
On toward the catafalques and biers:
Hope we can drop down here again
After—well, say a hundred years!

Bet, old pal, that your eyes will peel
Onionwise, or the same as mine,
As we look aloft to the whizzing keel
Of the limited coursing an ozone line.

Like an eagle the Baldwin will flap its wings
And howl at a cloud to get out of its way,
Hauling its pinioned, sky-hooting "strings"
Like it's got a date for the Judgment Day!

The stage-coach passed in a slather of dust;
The engine came with its sputter and steam;
And yesterday's triumphs are red with rust
While to-day leaps swift to the morrow's dream.

PATRIOTIC WOMEN IN WIRELESS WORK.

Girl Operators Volunteer for Radio War Service — Classes Started for Beginners.

MISS ELISE VAN E OWEN TESTING A RECEIVING SET AT HUNTER COLLEGE, NEW YORK CITY, WHERE DOZENS OF YOUNG GIRLS ARE LEARNING RADIO IN ORDER TO WORK AT HOME FOR UNCLE SAM WHEN ALL HIS WIRELESS BOYS HAVE GONE TO SEA

Photo copyrighted by Underwood & Underwood, New York

THE United States has been at war only a handful of weeks; yet it has learned already that it can count on its women to do their share of the work, just as Europe found its women ready when the time came.

From all parts of the country applications from girls who want to offer their services as radio operators are pouring into the various government stations.

A great many women, eager to do their bit, but not versed in telegraphy, are taking courses in that subject in the hope that Uncle Sam will let them help.

U. S. Expert in Charge.

At Hunter College in New York City a large class has already been organized. It is known as the Girls' Wireless School, and has for its laboratory a large and fully equipped code-room.

Under the supervision of an expert assigned by the government these plucky girls are being instructed in every branch of wireless.

Already some of them are showing marked proficiency in sending and receiving. Many others are waiting to enter the class as soon as there is room.

Of greater importance, however, is the invaluable service which will be rendered the government by the many women telegraphers now in commercial houses, on the railroads and elsewhere, who have a knowledge of radio work.

Miss Margaret Donahue, a pretty Boston girl, was the first woman in the United States to get a first-class commercial license as a radio operator.

At present Miss Donahue is employed by a private firm as a telegraph operator,

CODE ROOM OF THE GIRLS' WIRELESS SCHOOL WHERE INSTRUCTION IN EVERY BRANCH OF THE ART IS GIVEN BY AN EXPERT APPOINTED BY THE GOVERNMENT SOME OF THESE SCHOOL-GIRLS ARE ALREADY ABLE TO SEND AND RECEIVE WITH FAIR SPEED. "CO-ED" WIRELESS OPERATORS WILL SOON BE COMMON.

Photo copyrighted by Underwood & Underwood, New York.

THE FIRST WOMAN IN THE UNITED STATES TO GET A FIRST-CLASS COMMERCIAL RADIO OPERATOR'S LICENSE IS MISS MARGARET M A. DONAHUE, OF BOSTON SHE HAS OFFERED HER SERVICES TO THE NAVY DEPARTMENT AND WILL PROBABLY JOIN THE GOVERNMENT'S WIRELESS STAFF SHORTLY.

Photo copyrighted by Underwood & Underwood, New York.

PLAYING THE PUNKIN YEN BACK EAST.

One Day's Work Makes Our Circus Pals Ready to Stake Anybody Else to Their Share of the Turnip Show.

BY WILLIAM H. SEYMOUR.

IT'S one September morn; me an' Red is shiverin' like th' Jane in th' pitcher that has th' same kind of a monniker. But don't ferget that me an' him ain't paddlin' in no wet stuff, not us; an', furthermore, we has our uniforms on.

"Slim," Red says ta me, "are we goin' ta troup with this outfit an' freeze until th' band plays 'Home, Sweet Home,' or do we gate th' li'l' ole juice-joint in a hurry?"

"Better slough th' joint," I says. "Fer th' last week we've been goin' on th' nut fer expenses every day. Th' weather's too cold fer us ta expect th' natives ta go against th' lemonade. We'd knock off more dough peddlin' ice ta th' Eskimos."

"You told it, Slim," Red says. "They ain't no nourishment in sendin' our tough coin after a graft that's been shot ta pieces by th' wint'ry breezes."

Red an' me had piled up th' green stuff that season until we has a bank-roll so big that a horse would have a tough time ta hurdle it. We'd be a coupla saps ta stall along with th' aggregation an' lose money till th' middle of October; wouldn't we?

Besides, me an' him is nursin' a yen ta play th' punkin fairs back East. They is plenty of these turnip shows pulled off within a coupla hundred miles of New York. If we frames up a good, strong graft, they ain't no reason why we can't hustle ourselfs some darb, an' always be within a few hours' ride of th' big burg. We're weary of playin' th' thickets an' tall sticks, so it's us fer th' bright lights an' our punkin yen.

Red an' me blows th' joint that mornin', an' breaks th' tidin's ta th' Old Man an' th' rest of th' trick. Then we starts ta figure on th' route ta th' big village.

"Do we nick th' strong-box fer a regular coach?" Red asts me.

"Posolutely yes!" I tells him. "With th' bank-roll like what we've got, we can stake Dan O'Leary ta our share of th' walkin' stuff."

"Can th' comedy, Slim. Ya know that I didn't mean that we'd hit th' grit. I'm off that hikin' stuff. A guy I know once started ta reach Broadway by th' hike route, an' he tipped me off that it's wery annoyin' ta have ta get off th' track every five minutes ta let a string of rattlers whiz past an' fill yere lugs with hot cinders. What I mean, Slim, is do we buy a Pullman?"

"Surest thing," I tells him. "Unless ya think we could charter a special—one that's finished in green, so as th' color-scheme won't conflict when we're weedin' th' bank-roll over in private."

"Save that fer th' minstrels," Red laffs. "Th' Pullman will be okay fer mine; I ain't rode in one fer so long that I'm all outa paper drinkin'-cups."

Well, ta make a long story short, Red an' me hits th' big burg a coupla days later. Th' first night we're there Red wants ta blow inta swell scoff-joint an' chuck a feed under his belt.

"I'm strong fer the idear," I tells him,

" only ya got ta lay off eatin' any soup in these swell dumps."

" Why can't I go against th' soup?" he asts me.

" Red," I says, " ye're a good scout, an' I don't want ya ta get thick with me if I tells ya."

" Shoot th' answer; I'm listenin'," he says.

" It's like this, Red. They is orchestras in these joints, an' if *you* start ta gargle soup th' noise will crimp th' band, an' we'll both get th' bums' rush."

He's sore fer a minute; then he laffs, an' says I put one over on him that time. But he leans off th' soup, jest th' same. We gives th' ham an' eggs a play.

Th' nut was a deuce apiece with th' gip thrown in; we knows we're bein' maced, but we don't squawk. Take it from me, some of them swell scoff-joints ain't got nothin' on a strong-graftin' circus.

A little w'ile later Red an' me is trailin' down th' main stem with th' rest of th' sun-dodgin' push when we runs inta Soapy Sanders. He's all polished up in his " jest-off-th'-lot " scenery, standin' on th' curb watchin' them iron guys on top of th' Herald Buildin' rappin' out twelve bells.

At first Red an' me don't make him because he's framed with green specs on his lamps; but Soapy makes us, an' yells:

" Hello, boys!"

" Hello, Soapy; didn't reckernize ya," I says. " Why th' green cheaters? Don't take yer hat off when ye're wearin' them."

He falls heavy, an' asts me:

" Why?"

" Because," I tells him, " somebody is liable ta think ye're a blind guy, an' toss a jit inta yer sky-piece."

" Slim," he laffs, " I ought ta numb ya fer that one, but I'll buy a round of somethin' wet instead."

Then th' three of us goes ta a joint where we can stick our feet under a table. an' we holds one of them " do-ya-remember " sessions. Red an' me knows Soapy from th' time he useta carry th' paste-bucket an' brush in front of th' show. That was before he went inta th' soap graft an' switched his monniker.

Believe me, Soapy has got th' rep of bein' some swell soap-worker; he can sell smaller pieces fer more dough than any guy I ever met. It's jest common wash-in'-soap what he cuts inta strips about three inches long an' a quarter-inch square, then wraps it in tinfoil an' peddles out fer a deamer a smash.

Usually he trails along with a circus an' unloads his " magic stain-remover " ta th' natives. Sure, it would take out stains — any soap will — but it was his way of workin' an' his line of chatter that brought th' yaps ta th' front with their thin dimes.

" Boys, I'm done with th' circus fer this season," Soapy tells us. " I'm goin' ta work some of th' punkin fairs round New York State. Th' graft is good an' th' dough is heavy; take a tip from me an' frame yerselfs with a soap lay-out."

Soapy keeps boostin' th' soap graft until he has me an' Red all steamed up over it. It 'll be a funny stunt fer us, a coupla candy-butchers, ta make what Soapy calls a " pitch."

Speakin' of pitches, I'll wise ya that a " low pitch " is when ya work on th' sidewalk with a keister an' tripod; a " high pitch " is when ya work from a carriage, an' a " sneak pitch " is when ya work without a license—or a " reader," as Soapy calls it.

Anyway, Soapy's spiel about th' dough we can glom with th' magic stain-remover fills me an' Red with a strong yen ta take a whirl at one of th' rube turnip shows.

That's how Red an' me happened ta be on th' outside of th' fair grounds a coupla days later with a one-horse rig an' a load of soap.

" Slim," Red says ta me, " do we send in fer a license?"

" Not w'ile I'm conscious!" I tells him. " What suckers we'd be ta send ten tough

ones after a reader when we can square a tin-star constable fer a coupla bucks!"

"Are ya sure ya can fix th' dick?" Red asts me.

"Red," I says, "you know me. I've been troupin' with shows so long that I could square it with th' mayor ta peddle gold bricks on his front porch."

"You're th' duke, Slim. Fly to it."

Do I square th' dick? I sure do—with an armful of magic stain-remover that don't set us back more than thirty megs.

We opens up th' joint, usin' th' knife-trick ta draw a crowd. Red is standin' there in th' carriage with his sleeve rolled up, an' th' young sword looks like it was stabbed clean through his wing.

We has a crowd, all right, an' I'm tellin' it to them a mile a minute. Jest as I'm ready ta turn th' push an' shake th' shekels from their clothes, a Jane in th crowd throws a fit from lookin' at th' knife in Red's arm. When they carry her away, all th' yaps trail along after her, an' leave me an' Red talkin' to ourselfs; what we says won't get past in print.

After that we has better luck; we're unloadin' th' soap like we was givin' away radium. Th' yaps seem ta be satisfied that we're runnin' a level-up joint, an' everythin' goes smooth as greased pinwheels—fer a while.

Then we near has a short-change squawk ta square. It was like this. Red is in th' rig peddlin' out th' stuff, I'm in th' crowd showin' th' saps how it works an' takin' spots outa their clothes.

A guy pushes up a two-case note; Red turns th' mitt an' holds out half a case. Th' guy starts ta count th' change, an' Red says in th' middle of his spiel: "Akemay th' umpchay"—an' goes along talkin' about th' soap.

"Akemay th' umpchay" was some circus chatter what Red an' me talks. In English it's "make th' chump." I grabs th' chump's sleeve ta remove a spot that ain't there, an' at th' same time I spills th' coin outa his mitt, apolergizes, an' helps him ta pick it up. Of course, he's fifty cents short; but I goes inta my kick fer th' four bits, an' we have another satisfied customer an' no squawk.

We has one swell stunt that th' natives ain't hep ta, an' it sure was th' convincer that th' magic stain-remover was th' real goods. Here's how we pulls it:

When I'm almost through with th' spiel about th' wonderful cleansin'-properties of th' junk, I asts one of th' towners ta take my clean white handkerchief an' rub it 'round th' axle of our rig. When he hands it back ta me, th' wipe is black with grease. I dips th' rag in water, rubs some magic stain-remover on it; then, *bing!* when I rinses it out, th' wipe is white like snow.

Some convincer. Yes?

Red an' me is takin' turns at spielin', an' we're gettin' away with th' axle-grease stunt till jest about dark. I'm in th' rig, an' when I gets ta where I passes out th' clean wipe, I asts a town chump ta rub it 'round th' hub as usual. I ain't keepin' cases on him like I should ought ta do.

When he hands it back, I starts ta work with th' stain-remover. Right away I'm hep that I've been crossed somewhere, because th' rag don't respond ta th' magic. I'm washin' away a mile a minute, an' kiddin' th' yaps ta kill time; but th' wipe is still black. Then I asts th' chump what he put on it besides axle-grease.

"Nawthin'," he tells me. "I got it off that hub right thar," an' he points ta a rig that's standin' next ta ours.

Then I know it's all off, because our rig was framed fer th' stunt. Listen: When me an' Red hires it that mornin', we washes off all th' grease with alcohol an' daubs up th' hubs with black tar soap. Are ya hep ta th' gip now?

I has ta go through with th' act somehow, so I jest leaves th' dirty wipe in th' bottom of th' basin an' palms a clean one when I goes ta my kick fer a fresh stick of stain-remover. Some of th' wise chumps is hep ta th' switch, an' I know they'll wise up th' sleepers an' crimp us

th' next time. But they ain't goin' ta be no next time, because I close th' joint right then, an' tell th' yaps that we'll open in th' mornin'.

I looks around fer Red, an' when I lamps him he's talkin' th' lug off a dick —th' same one I squared in th' mornin'. Pretty soon he breaks away from th' dick an' jumps inta th' rig with me. W'ile we're drivin' back ta th' livery stable I tells Red about th' chump that crossed me with th' grease.

"It's jest as well we made a quick, quiet escape," Red tells me. "Did ya see me stall th' dick?"

"Surest thing," I says. "What seems ta be his trouble?"

"Nothin'; only his wiff tries ta clean a crape-de-somethin' dress, an' the magic stain-remover puts it on th' blink fer keeps. Th' dick wants us ta come forward with th' price of a new dress, but I stalls him off till ta-morrow."

"Ta-morrow, Red," I says, "they'll be a coupla retired soap-merchants strollin' down th' main stem of th' big burg. I'm off that punkin yen."

"You said it fer me, Slim," Red tells me. "I'll stake some one else ta my share of them punkin fairs."

ENGLISH WOMEN ENGINE CLEANERS.

THEY HAVE LEFT THE "LIGHTS O' LONDON" TO DO THE WORK OF RAILROAD MEN

WOMEN are proving themselves capable of tackling even the most difficult of jobs nowadays. These happy-faced ladies work ten hours every day cleaning engines on English railroads. It's mighty hard labor, but they don't mind it much, for they know that the services of each one of them means another man released to fight for his country.

WE WANT UNUSUAL PHOTOS.

F you see a photograph relating to the railroad, the telegraph, or the telephone that interests you, the chances are that it will interest somebody else. So send it in to us, and if it has sufficient general appeal we shall be glad to pay you promptly for it.

In the table of contents you will find a number of single photographs, listed under the general head of "Miscellany." Look over these pictures, in this and preceding issues. They will give you a general idea of what we are after. But, to be more specific, the types of photographs which appeal especially to our readers are:

> The new, the novel, the quaint, the historical, the unique, the surprising; in general, anything which shows the resourcefulness and the adaptability of the human mind, or the skill and the daring of the doer. These photographs must apply to some phase of railroading. Views of old curiosities in equipment are always welcome, likewise pictures of extraordinarily difficult railway construction.

Each photograph should be accompanied by brief explanatory matter.

In sending in the pictures, be sure that they are photographs—real photographs. We can't use half-tone reproductions, etchings, prints, etc.

We don't care how the photos are mounted—in fact, it makes no difference to us if they aren't mounted at all—but we would like the negatives to be as clear in outline and as large as it is possible for you to make them. Put a piece of cardboard or other stiffening in the envelope, so that the picture will not be torn in the mails. And always enclose full postage for return in case your offering proves unavailable.

Come on, boys, get busy with the family camera, send in everything that looks good, and we'll pay you for everything we can use. Address EDITOR, RAILROAD MAN'S MAGAZINE, 8 West 40th Street, New York.

THE FIRST AMERICAN WIRELESS OPR.

Thomas H. Tierney Placed in Charge of Nantucket Lightship Station in 1901—Helped Receive Historic News "Scoop."

BY DONALD McNICOL.

AFTER the Morse telegraph had become well established and had aged sufficiently to endure the responsibility of a past, its chronologists found themselves on thin ice while establishing the fact of the first employed operator. The honor, or distinction, of having been the first man to hold that position was claimed by a half dozen gentlemen of argumentative proclivities, with the result that telegraph history is somewhat hazy on this point.

It seems to the writer singularly fortunate that we are able at this comparatively early date to establish, so far as America is concerned, the identity and circumstances of employment of the first regularly employed Marconi operator in the United States.

PIONEER AMERICAN MARCONI OPERATOR—THOMAS H. TIERNEY HE WAS STATIONED ON THE NANTUCKET LIGHTSHIP IN 1901, BEING THE FIRST ONE IN THIS COUNTRY TO BE ASSIGNED TO DUTY AS A REGULAR COMMERCIAL WIRELESS MAN

The operator whose claims we advance in this respect is Mr. Thomas H. Tierney, whose photograph is herewith reproduced.

The first use made in this country of Marconi's telegraphy was during the International Yacht Races in 1899. English operators carried on the tests.

In the year 1901 the Marconi Company began the erection of a coast station at

Siasconset, Massachusetts, the purpose of which was to communicate with ships at sea, later to be equipped with wireless apparatus.

Used to Report Yacht Races of '99.

When the Siasconset station was ready for service, the New York *Herald* newspaper arranged with the Marconi Company to install wireless equipment on board Lightship No. 66, stationed off Nantucket Shoals, a distance of fifty miles from Siasconset. When the installation had been completed Mr. Tierney was employed as operator and sent to Siasconset to

> Catch the toll of the foundered ships that
> missed the mufiled bell -
> Toll of the derelicts which drift, unmanned,
> 'twixt heaven and hell.

As soon as he had learned from the English operators how to work the system, Mr. Tierney took charge of the station on the Nantucket Lightship, being the first American assigned to duty as a regular wireless operator.

This was on August 1, 1901. At that time the only transatlantic vessels equipped with wireless instruments were the Kaiser Wilhelm der Grosse, of the North German Lloyd Line, and the Lucania, of the Cunard Line.

Neither of these boats now sails the seas; the Kaiser Wilhelm was sunk during the present war, somewhere in the South Atlantic, by a British cruiser, and the Lucania was destroyed by fire at Liverpool.

The Nantucket Shoals Lightship is permanently anchored at a spot fifty miles southwest of Nantucket Island, and keeps burning the guiding light for vessels from European ports bound for New York, Philadelphia, and Baltimore.

He Pitied the Poor Sailors.

Mr. Tierney remained in the Marconi service six years, and during his stay on the lightship had many thrilling experiences—experiences which developed for him a very reliable pair of sea legs. The occasional excursions on board a lighthouse tender to and from shore during the rough weather in winter especially furnished a brand of excitement seldom experienced this side of the Arctic Circle whaling area.

Mr. Tierney's diary contains an entry dated January 2, 1903, recording the fact that on that date, while being transferred from the tender to the lightship in a whaleboat, the latter was swamped by high seas then running, precipitating operator and boat crew into the icy waters. The fact that Mr. Tierney's diary contains this entry written by himself is proof enough that the Marconi Company used rare discernment in selecting the right operator for the lightship.

A never-to-be-forgotten date in the history of the Nantucket wireless station was February 22, 1902. By way of the shore station at Siasconset the *Herald* had advised the lightship operator to be on sharp lookout for the steamer Kronprinz Wilhelm, which was bringing Prince Henry of Prussia to the United States on a visit which made quite a stir at the time.

He Held the Key and 2d Trick Held Him.

At this time there were two operators on board the lightship; but, thoroughly alive to the importance to the *Herald* of first news of the prince's approach to the American shore, Tierney remained at the tape continuously forty-eight hours, finally, at 9 P.M., being rewarded for his long vigil by hearing the "tapper" feebly sputter, "NS, NS," (the call for the lightship), followed by "KP, KP" (the call of the Kronprinz.

At this time was raging one of the most severe storms ever experienced on the Atlantic coast. The rolling of the lightship was so great that the second operator had to squat upon the floor of the wireless cabin, and bracing himself, hold steady the chair in which Operator Tierney sat while he received from the Kronprinz "ship's position," and a message to President Roosevelt from Prince Henry.

After this message was received at the lightship, Tierney was unable to raise the operator on the Kronprinz. Subsequently it was learned that the reason for this was that the wireless mast-aerial wires on the ship had been wrenched from their fastenings by the gale just as the prince's message had been despatched.

Tierney lost no time in forwarding the message through the ether to the shore station at Siasconset, whence it was flashed to New York over the land line—and the *Herald* scored a scoop that repaid its proprietors for their enterprise in being the first to make use of the new method of overseas communication.

A section of the original register tape bearing this famous aerogram was sent to Kaiser William, who acknowledged its receipt with an autographed letter which was appropriately framed and hung on the walls of the telegraph office at Woods Hole, Massachusetts. Another section of the tape was donated to the Nantucket Historical Society's collections.

Present-day radio operators will be interested in knowing that during the days of the coherer at Nantucket, the distance over which communication was carried on did not exceed one hundred miles. Mr. Tierney, being an experienced Morse operator, very early in the radio service introduced the practise of copying messages by sound from the tapper, and although the tape register was continued in service, its employment was for the purpose of record only.

Radius of Only 100 Miles.

In those days the system was so limited in range that Nantucket was not able to work direct with the stations at Sagaponack, or Babylon, Long Island; the magnetic detector had not then made its appearance; ordinary induction coils were used in transmitting, and provision was made for but two operating wave-lengths. These were given the euphonious and musical names Tune A, and Tune B.

Mr. Tierney is now assistant chief operator for the Postal Telegraph Company in their main office, New York.

THE LITTLE CABOOSE.

BY C. E. CALKINS.

THE mighty machine at the head of the train is impressive, you'll have to admit,
As she rumbles and roars o'er the glimmering rails, you can tell that she's "doing her bit."
But back at the rear there's a little old car that rattles along kind of loose.
She is not much to see, but I'm sure you'll agree there is use for the Little Caboose.

THE "brains" on his perch in the cupola watches over the swaying train,
And his eyes and his nose and his ears are set, for trouble will ever complain.
And never the squeal of a brake that sticks, nor a sound that seems abstruse,
Is missed by the scout that is watching out, from the rear in the Little Caboose.

AND the smell of the smoke of a burning box is a scent that his watchful nose
Can tell from the smell of the smoke in hell, though he can't smell a fragrant rose.
And then, when they go in the ditch, 'tis then that they'll have the greatest use
For the things you will find, tailing on behind, 'way back in the Little Caboose.

With *the* Inventors

WE do not guarantee an invention to be the best of its kind just because we describe it in these columns We aim to bring out and call attention to certain general principles specifically applied, and if you inventors can think of a better way of applying them, go ahead

There is no law against improvement, but on the contrary the law encourages it and even protects it against infringement. Improvement is but another name for evolution—the unfolding of ideas as well as of things material— the upbuilding from the germ plan and the germ cell to the finished product and the full-blown flower.

Inventors build on foundations already constructed This generation takes up and carries forward the ideas of a generation past, as a runner in a relay race carries forward the pennant which his teammates have already advanced

A subtle law of association seems to govern invention, and the best inventors yield to the law and make use of it, consciously or unconsciously. The first railroad cars were modeled after the horse vehicle, not because that was the best model, but because the inventive process is a gradual one, proceeding step after step and never by wide leaps, always under the influence of associated ideas.

Not infrequently, reading a description of some device will suggest a change and be the inspiration for further inventive effort The pages of the RAILROAD MAN'S MAGAZINE have been responsible for more than one fortune in this way.

Accordingly, we describe inventions, not simply to advertise them, but for their suggestive value. No attempt is made to treat a subject technically, and, in fact, that method is largely avoided There may be persons who claim to understand abstruse and technical descriptions better than plain English statements, but such people are not so numerous as formerly.

There was a time when if a writer could describe a thing so that nobody could possibly understand it, such a writer passed as a very deep thinker Those good old days are gone forever now, and the modern writer must not only dig up the rough diamonds, he must cut them and polish them and dazzle you with them.

In these pages, written in the popular style, will be found a short article, entitled "Brakes Applied to Track." Below is the technical description, given that the reader may compare the two methods and determine which is the clearer·

> In a car brake a rock shaft mounted in bearings in car frame members and having rock arms and also provided with a lever arm, in combination with a brake lever connected to said lever arm to turn the rock shaft, a pair of track brake elements, links pivotally connected to the car frame members and also to said track brake elements, and links extending oppositely to the first named links and pivotally connected to said track brake elements and directly to the rock arms.

DOWN-BRAKES ON DERAILING.

VARIOUS expedients for automatically applying the brakes of a train upon the derailment of one of the trucks have been suggested and tried with more or less success. Some of these inventions, however, are complicated, and have valves that may easily get out of order and fail to operate in an emergency.

A braking-device of rather simple design and construction is the subject of patent No. 1,219,046, by J W. Atkins, of Shreveport, Louisiana

In this device, use is made of the fact that a car and a truck change their relative position in derailment. There are connecting links between the trucks and the valves of the air-pipes.

These valves are merely exhaust-ports with caps over them, and under normal conditions are closed, but when a truck leaves the rail a

restraining lever moves away from the cap, which is blown off by the air-pressure. The train-pipe then exhausts into the atmosphere, operating the brake mechanism

The old-fashioned way was to let a derailed truck bump along beneath a train until the noise attracted the attention of the conductor, who signaled the engineer, who, in turn, stopped the train. The loss of time caused loss of money, as it generally does, and loss of life sometimes followed.

In an emergency, an automatic device is the great time-saver, and a big factor of safety.

SPEED OR TRACTION.

LOCOMOTIVES built for speed usually do not have the requisites for great tractive force; and, *vice versa*, locomotives designed for heavy hauling usually lack speed qualifications.

An attempt at combining in the same engine these contrary characteristics is made in an invention by R. G. Graham, of Swanton, Ohio. The patent is No. 1,219,549, and is assigned to the Pilliod Company, also of Swanton

The invention is based on the assumption that greater efficiency is obtained by admitting steam to the high and low-pressure cylinders in such proportions that the high-pressure cylinder is the stronger at starting and for slow running, while for fast running contrary conditions should prevail.

In carrying out the spirit of the invention, a modified form of Baker valve-gear is employed The adjustment is such that the high-pressure cylinder has the longer cut-off for slow speed, and is the stronger until high speed is reached, when the conditions become reversed

IMPROVISED SWITCH.

OFTEN it is necessary to make a branch track for temporary freight hauls where construction operations must not interfere with the main-line traffic. This can be accomplished very readily with a recent invention, without even cutting or disturbing the rails of the main.

A casting in the form of an inclined plane fits over the line-track in such a manner that a train will rise on it and enter the siding, passing completely over the through rails.

The casting is hinged so that it may be tilted back to disconnect the two roadways, and may be locked in the inoperative position by suitable means provided.

A device of this nature should prove useful in many instances, especially as it can be readily connected to any part of the railway system without the use of frogs, switch-springs, or other similar equipment.

The invention is by G. V. Allen, of Arp, Texas, and the patent number is 1,219,794.

THE TRAIN DYNAMO.

AN electric generator for the up-to-date through service will soon be considered a necessity, rather than a luxury. The varied uses range all the way from supplying the lighting system to whipping cream in the dining-car.

The motive-power for the generator or dynamo may be steam from the locomotive or an internal-combustion engine, or mechanical power may be taken from a wheel axle. When the axle is not rotating, storage batteries may be automatically switched into service to supply the electric conduits.

The location of the generator may be either a truck or a car-frame. If a truck is chosen, the size of the generator is somewhat limited on account of the excessive vibration, and a spring suspension is usually necessary.

If the generator is located on a coach or any part of its framing, mechanical difficulties arise by reason of the relative motion between car and truck in the passage of curves.

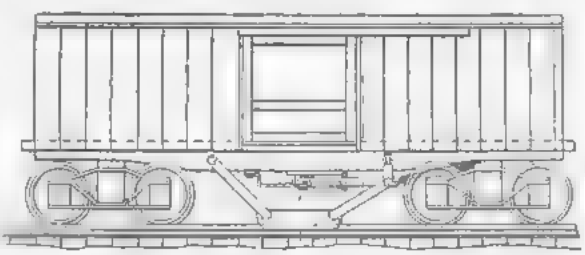
These difficulties may be overcome by inserting between the wheel axle and the generator some kind of power transmission that will adjust itself to the relative movement referred to.

A power transmission of this kind has been developed by E. D. Campbell, of St. Louis, Missouri, and is described in detail in patent No. 1,217,150. The device makes it possible to place in a coach a generator of sufficient size to supply an entire train, which is not usually the case with the small dynamo attached to the truck framing.

BRAKES APPLIED TO TRACK.

THE application of brakes to the track instead of to the wheels is a subject that has been receiving some thought from inventors.

It has been observed for a long time that the sudden stoppage of the wheels while a train is in motion has a tendency to make flat places on the tires, on account of the sliding of the wheels along the track.



BRAKE-BLOCK IS SUSPENDED NEAR CENTER OF THE CAR BY MEANS OF LINKS, AND IS FORCED DOWNWARD BY A BELL-CRANK LEVER.

The illustration shows one method of applying the brakes directly to the track instead of to the wheels. The brake-block is suspended near the center of the car by means of links, and is forced downward by a bell-crank lever, in connection with the usual rods and brake-beam mechanism

The brake block is grooved to fit over the track, and curves upward at the ends to facilitate the passage of joints.

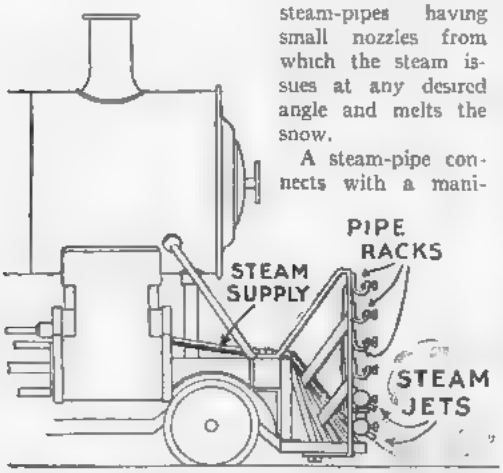
The patent for this invention is No. 1,218,466, granted to C. P Rice, of Slayton, Minnesota

SNOW-MELTER.

A SNOW-BOUND train can be readily extricated by melting the snow in front of the locomotive by means of steam-jets.

Pipe-racks are supported by a bracket attached to a pilot, and in these racks are placed several horizontal steam-pipes having small nozzles from which the steam issues at any desired angle and melts the snow.

A steam-pipe connects with a manifold, which acts as a source of supply for the horizontal pipes and steam-jets



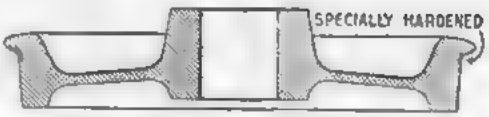
MELTING THE SNOW IN FRONT OF THE LOCOMOTIVE BY MEANS OF STEAM JETS

The history of railroading is full of instances of trains stalled overnight in deep drifts of snow, but with the modern plows, shovels, and snow-melters, such cases of being snow-bound are not likely to occur so frequently in the future

The present invention is protected by patent No. 1,219,185, taken out by H. L. Stull, of Stroudsburg, Pennsylvania

MOLASSES AND CAR-WHEELS.

SEE the connection? Sounds like a picnic, doesn't it? Molasses is spread on bread to make it taste better, and is therefore spread on car-wheels to make them stronger



MOLASSES SPREAD ON CAR-HEELS TO MAKE THEM STRONGER

Who but an imaginative inventor would ever arrive at such a conclusion?

And yet the scheme works. Of course, the molasses is applied during the casting of the wheels, and there are other substances added

Just because we speak of molasses cake, it does not follow that there is but one ingredient, even though a prominent railroad man did make that mistake when attempting to cook, during the absence of his wife and family

Molasses, sand, powdered manganese, or other hardening materials, are mixed and placed in the mold, just where the flange joins the tread of the wheel.

When the molten metal is poured into the mold, it rises and flows over the hardening composition, which is absorbed and combined in the casting.

In this way the flange is materially stiffened to meet the increasing demands of modern railroading. Substantial flanges are needed to withstand the strains at crossings and in rounding curves, and the load is thrown largely on the rim of the wheel when rails of special design are employed

The patent for this invention is issued to Joseph Stuart, of Wilmington, Delaware, assignor to the Lobdell Car-Wheel Company, of Wilmington, Delaware. The patent number is 1,218,489.

FIRING IMPROVING.

SOME day the fireman of a locomotive will simply touch a button to have fuel put in the furnace, and this, no doubt, will add very much to the popularity of the position

At present, one of the hardships of firing certain types of locomotives is in the work of passing the coal forward in the tender, and this labor increases as the coal diminishes. Swiftly back and forth the fireman has to move from coal bin to furnace, with shovel now empty, now full

The motor-driven coal-pusher is one of the remedies that has been tried out in this connection and not found wanting. Such a device is set forth in patent-specification No. 1,219,334, by N M Lower, of Schenectady, New York

The preferred form of tender for use with this invention is one with an inclined rear wall, ending in a coal deck, where the motor is located

The motor is merely a piston and cylinder,

and one of the unique features is that the piston remains in a fixed position, while the cylinder moves back and forth to operate the coal pushers.

The pushers have a perpendicular front surface for moving the coal with each forward stroke, but are wedge-shaped toward the rear so as to get beneath the coal and acquire a new load for the next stroke toward the furnace.

WHISTLE BLOWS ITSELF.

"WHY shouldn't it?" asked the engineer. "We all like to blow ourselves occasionally."

The joke was rather coarse, but the engineer explained quite intelligently the new scheme that he was trying out, so he was allowed to live and move and have his being

"It is simple enough," he went on to say. "At every crossing the whistle is to be sounded. Why in the world should the engineer burden his mind with the matter when it can be attended to by a self-operating device?

"At the approach to a crossing is placed a trip which moves a lever on a passing train and blows the whistle. That is the idea in a nutshell.

"Of course, inventors usually put a few fancy touches to their inventions, and in the present instance a trip may be placed on both sides of a crossing and yet the whistle need be sounded only on approaching and not after leaving the highway. That is one of the finer points, and need not be dwelt upon, except by the designer.

"The main point is that the whistle should blow itself. The requirement that the whistle shall not be sounded after passing a crossing, unless the train backs, is a detail which may be worked out in various ways by various inventors."

A patent on this invention has been issued to Joseph Stanley, of Huntington, Indiana, and is No. 1,219,181.

THE FOURTH-CLASS PASSENGER.

BY W. E. NESOM.

THE hobo travels where he lists—
Up, down, across, around—
And has the knack of riding free,
No matter how he's bound.

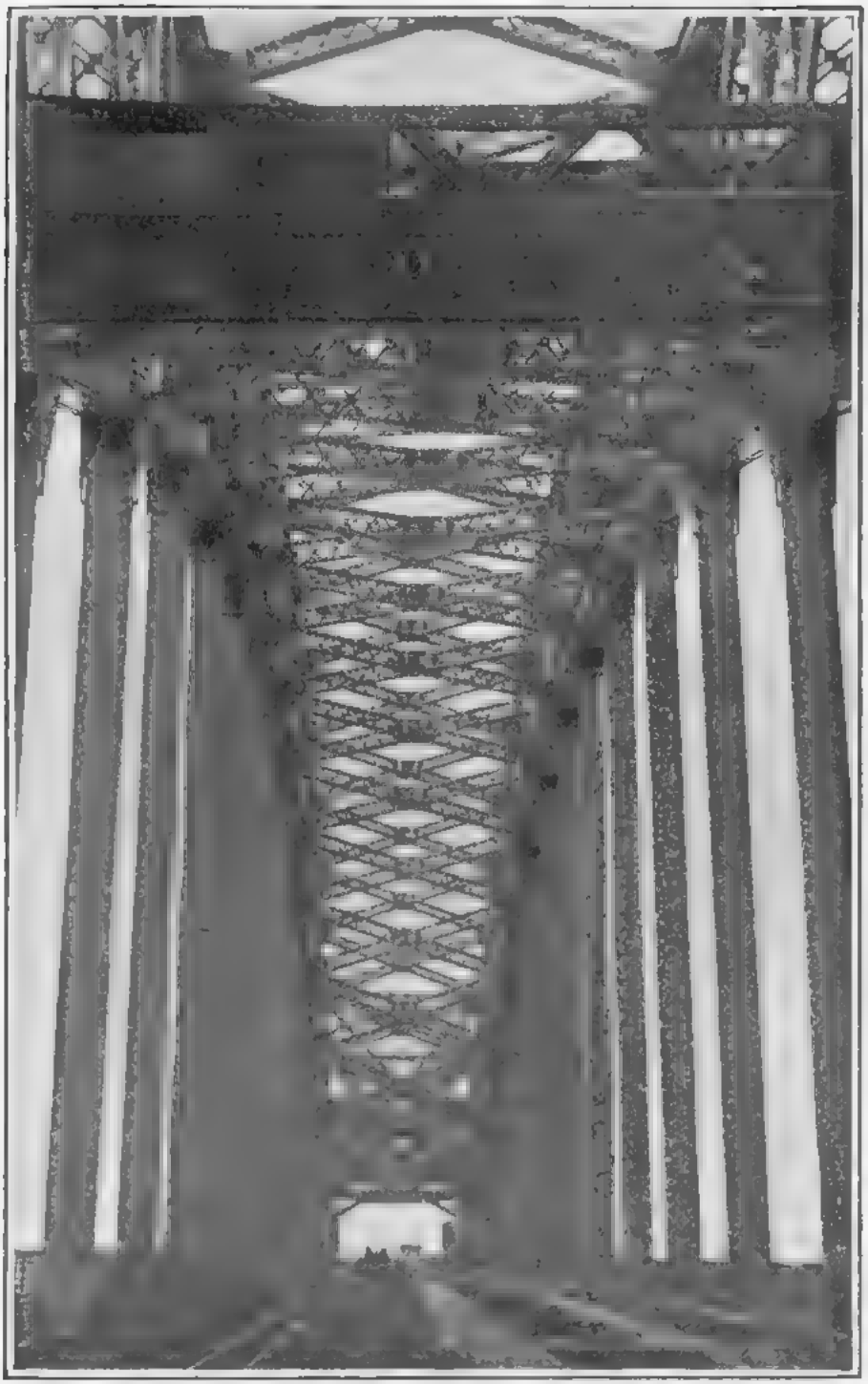
Contemptuous of the piker's plaint
That travel comes so dear,
This seasoned tourist spreads himself—
Athwart the running-gear.

He doesn't plod on weary feet
Along a rocky track,
Nor try to ride upon his face—
He goes upon his back.

If, by ill luck, he waxes stout,
His chance to ride is slim:
Where travel broadens certain folk,
It merely flattens him.

When G. P. A.'s compile reports,
Their custom is to mock,
Or quite ignore, this rolling stone
Among the rolling-stock—

But there he is, coequal with
The drummer and the actor;
In transportation problems, he's
An underlying factor.



THE MIGHTIEST STEEL ARCH IN THE WORLD SPANS THE RUSHING WATERS OF HELL GATE, IN THE EAST RIVER, OFF NEW YORK CITY. ITS LENGTH BETWEEN ABUTMENTS IS 1,017 FEET AND IT RISES TO A HEIGHT OF 307 FEET ABOVE THE TUMBLING TIDES

MAKES A WAY-STATION OF NEW YORK.

Trains Now Run from Boston to Washington Without Change via Hell Gate Bridge.

BY J. W. GREENBERG.

NEW YORK has now been made a way-station on the route from Boston to Washington. Can the time be near when trains will stop at that thriving little town on signal only?

The New York Connecting Railroad, conceived a quarter of a century ago, has just been opened, and a great dream of railway engineers for nearly three decades has become a fact.

With the completion of Hell Gate Bridge, the mightiest steel arch in the world, in the building of which $27,000,000 were expended, the last link in the great chain that joins two big railroad systems is welded. This joint project of the Pennsylvania and the New York, New Haven and Hartford systems occupied four years in its construction. It makes possible through train-service from all parts of New England and the Eastern Provinces of Canada to Philadelphia, Baltimore, Washington, Pittsburgh, Chicago and other points in the Middle States, the South and the West.

Saves Miles of Ferriage.

The new road consists of a link of four-tracked elevated line, about six miles in length, and built of concrete and steel. It cost $100,000,000 to build — almost $17,000,000 a mile, and was designed to replace the service over the East and Hudson rivers.

Before the opening of the New York Connecting Railroad freight from New England bound for the South had to be shipped fifteen miles on a car ferry which operated between Port Morris, in the Bronx, New York, to the New Jersey Coast.

Under the new conditions trains reaching Port Morris from northern points along the line of the New Haven will pass over a series of viaducts and bridges in crossing the islands of the East River to Long Island.

Viaduct through Long Island City.

A long arched viaduct leads through Long Island City, and as the roadbed gradually descends the massive piers are replaced by an embankment retained by concrete walls which carry the tracks to the upper end of the Sunnyside yards of the Long Island Railroad.

From here passenger trains proceed to the Pennsylvania Station in New York City through the four-track tube system under the East River now being used by the Long Island, and thence under the western half of Manhattan through the Hudson River tubes, beneath the city of Hoboken, and, piercing the solid rock of Bergen Hill, emerge in New Jersey.

From the Bergen Hill portal, trains pass over a five-mile elevated line above the Hackensack Meadows to Manhattan Transfer, beyond which the main line of the Pennsylvania Railroad is used.

Standing out in this great engineering project is the huge bridge which spans the treacherous, swift-moving waters of

PRESIDENT SAMUEL REA, OF THE PENNSYLVANIA RAILROAD, (RIGHT) AND GUSTAV LINDENTHAL, DESIGNER OF THE NEW HELL GATE BRIDGE (LEFT), WERE THE PRINCIPAL SPEAKERS AT THE RECENT EXERCISES DEDICATING TO PUBLIC SERVICE THE NEW YORK CONNECTING RAILROAD WHICH REPLACES THE FERRIAGE OVER THE EAST AND HUDSON RIVERS.

ARMED SOLDIERS NOW GUARD HELL GATE BRIDGE DAY AND NIGHT, FOR SINCE THE OUTBREAK OF WAR THIS STRUCTURE HAS BECOME DOUBLY IMPORTANT OVER IT THOUSANDS OF TROOPS WILL BE TRANSPORTED, AND BY MEANS OF IT THE GREAT MANUFACTORIES OF NEW ENGLAND WILL BE BROUGHT INTO CLOSER TOUCH WITH THE RAW MATERIALS OF THE SOUTH AND THE WEST

Hell Gate, off the northern part of Manhattan Island. It crosses the east channel and is part of the two and a half miles of bridge in the system.

The distance between the centers of skewbacks in the span is 977 feet, six inches. The distance between the near sides of the tower-piers at the coping is 1,015 feet. In the center of the arch the top chord on its upper edge clears the river at high tide 307 feet, six inches, and on the lower side of the chord 265 feet.

In general conformation and beauty, as well as in length of span, this new bridge is one of the most notable structures of its kind. And it is to serve a great need, for in joining the lines of the two great systems of the East it brings the industries and manufacturing enterprises of New England into touch with the great fields of raw materials in Pennsylvania and other States lying to the West and South.

Accepting the property from the hands of Gustav Lindenthal, the designer of the Hell Gate Bridge, at the recent dedication ceremonies, President Samuel Rea, of the Pennsylvania Railroad, said in part:

President Rea's Speech.

"The New York Connecting Railroad Company was incorporated a quarter of a century ago, and its railroad and bridge have taken four years to construct. It exemplifies great engineering skill in its design and construction, and has cost over $27,000,000 of money, provided by the public on the guarantee of the Pennsylvania and New Haven systems.

"I congratulate the chief engineer and designer, Gustav Lindenthal, and the other engineers connected with this work, upon the completion of one of the notable projects of the world.

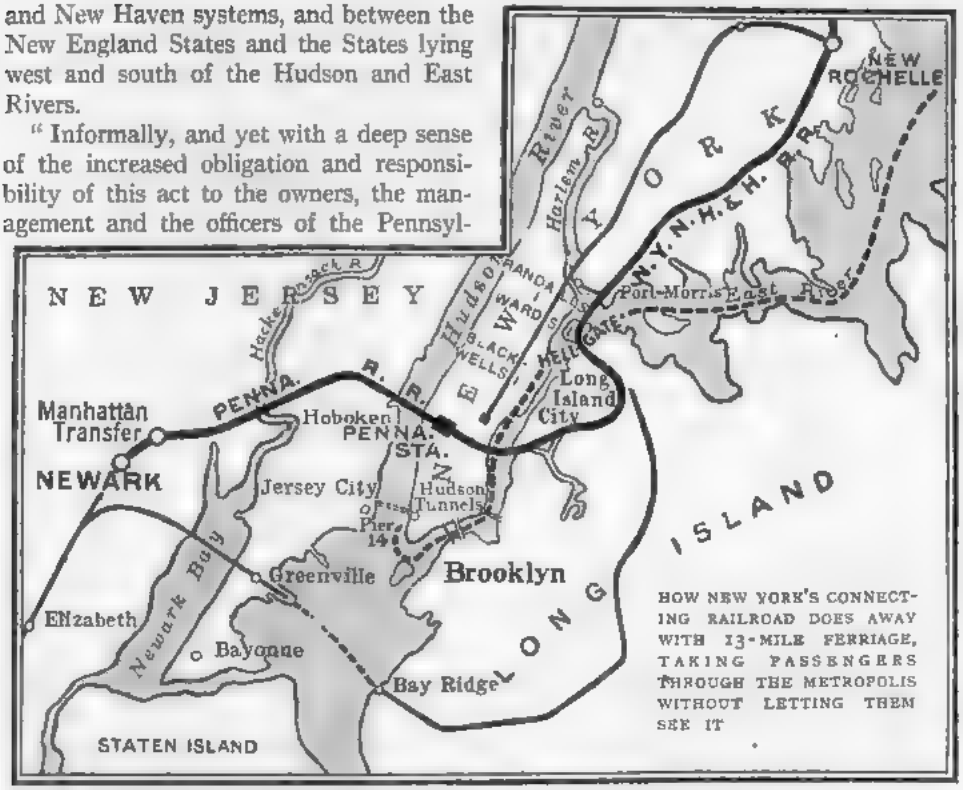
"This railroad, with its East River bridge, on which we stand, is transferred to the New York, New Haven and Hartford Railroad Company, for operation as a part of its system, to replace the river service over the Hudson and East Rivers. It completes the direct rail connection, *via* New York City, between the Pennsylvania

THE NEW YORK CONNECTING RAILROAD, OF WHICH THE HELL GATE BRIDGE IS THE MOST IMPORTANT LINK, WAS BUILT AT A COST OF NEARLY $17,000,000 A MILE. THE NEW HAVEN AND PENNSYLVANIA SYSTEMS ARE JOINT BUILDERS OF THIS NEW SIX-MILE ROAD WHICH WAS CONCEIVED A QUARTER CENTURY AGO AND JUST FINISHED AT A COST OF $100,000,000. OF THIS SUM, $27,000,000 WAS SPENT ON THE BRIDGE ALONE

and New Haven systems, and between the New England States and the States lying west and south of the Hudson and East Rivers.

"Informally, and yet with a deep sense of the increased obligation and responsibility of this act to the owners, the management and the officers of the Pennsylvania and New Haven systems, it is my duty and pleasure to dedicate this railroad and bridge to the transportation service of the country.

"May it prove a further link to bind our citizens and the railroad systems in closer ties of friendship, and bring increased unity of effort and service in promoting the best interest of our country, and insure greater prosperity and happiness to us all."



HOW NEW YORK'S CONNECTING RAILROAD DOES AWAY WITH 13-MILE FERRIAGE, TAKING PASSENGERS THROUGH THE METROPOLIS WITHOUT LETTING THEM SEE IT

Many Big Officials Present.

The dedication took place in the course of an inspection trip over the line by a party of directors and officers of the two railroads. The special train which conveyed them was the first operated over the New York Connecting Railroad. Among those in the party were:

Of the Pennsylvania Railroad—President, Samuel Rea; directors, W. H. Barnes, C. Stuart Patterson, Joseph Wood, Bayard Henry, Levi L. Rue, Percival Roberts, Jr., and H. C. Frick; vice-presidents, W. W. Atterbury, George D. Dixon, Henry Tatnall, W. H. Myers, and A. J. County; and general manager, S. C. Long

Of the Pennsylvania Lines, West—Vice-presidents, J. J. Turner, E. B. Taylor, and Benjamin McKeen; and general manager, D F. Crawford

Of the Long Island—President, Ralph Peters; directors, C. M. Pratt, W. G. Oakman, and H C. Lakin; and general manager, J. A. McCrea

Of the New York, New Haven and Hartford—Vice presidents, B. Campbell, E. J. Pearson, E. G. Buckland, J. M. Tomlinson, and A. R. Whaley; directors, J. P. Pratt and Eli Whitney; general manager, C. L Bardo; secretary, A. E. Clark; and treasurer, A. S. May.

George V. Massey, retired general counsel; Gustav Lindenthal, designer and chief engineer, East River Bridge Division; and George Gibbs, consulting electrical engineer.

Some idea of the magnitude of the Hell Gate Bridge may be gained from the fact that it contains more steel than both the Manhattan and Queensboro bridges, previ-

ously the largest in New York, and four times as much steel as the Woolworth Building.

The six-mile railroad of which it is a part will not only relieve the tremendous congestion with which the roads have had to contend, but will eliminate the long car-ferry from New York to the Jersey Coast.

Five Trains a Day Scheduled.

Shippers will now be afforded fast all-rail through-freight service from points as far north as Halifax to anywhere in the South or West. The new route is also of inestimable value for the moving of troops and supply-trains

Five trains will soon be making daily the run each way between Boston and Washington. The Federal and Colonial expresses have already been inaugurated, and these will be followed shortly by two trains operated by Adams Express.

A through summer train, which will probably be known as the Washington-Bar Harbor Express, will also be operated to provide facilities for patrons who live in the South and the West and who spend their vacations at New England resorts The New York Connecting Railroad and Hell Gate Bridge have been transferred to the New York, New Haven and Hartford Railroad Company for operation as a part of its system.

TRAVERSING NIAGARA IN A BASKET.

SUSPENDED FROM SHORE TO SHORE, TWO HUNDRED FEET ABOVE THE TURBULENT WHIRLPOOL, THE AERIAL CABLEWAY AT FAMOUS NIAGARA FALLS IS A MARVEL OF ENGINEERING SKILL. THE STEEL CAR IS OPERATED ON STOUT CABLE LINES EIGHTEEN HUNDRED FEET IN LENGTH AND IS DRIVEN BY A 75-HORSE-POWER ELECTRIC MOTOR. IN ADDITION TO THE OPERATORS, THE BASKET-CAR WILL HOLD AS MANY AS THIRTY-SIX PASSENGERS.

THE CRIME OF THE UNCRATED CALF.

Limpid-Eyed Lumbering Little Lummoxes Once Were Shipped Loose; and Those Were Not Happy Days for Express Messengers.

MEN WEREN'T REALLY CRUEL; ONLY HUMAN.

Suppose a Four-Legged Fat-Head Dragged You Stomach-First across the Edge of a Truck, Hauled You through a Consignment of Grapes, or Chewed Up a $75 Silk Dress on You, Wouldn't You Be Mad Enough to Slip the Pesky Critter a Swift Kick?

BY A. F. HARLOW.

ONE of the things that used to bother me considerably when I was in the express business was the hostile criticisms directed at us expressmen by the thoughtless public because of our methods of handling calves.

I do not know whether the custom is still followed, but in my younger days in the business, the express companies used to receive calves "averaging 150 pounds in weight" for shipment to butchers and commission merchants in near-by cities, uncrated, and with naught but a stout bit of rope around the neck. Thus haltered, they must be handed into an express-car, hauled to the city, and there transferred from the car to an express-wagon for delivery to consignee.

"Ain't Those Expressmen Turrible!"

It seemed to be the opinion of persons whom I heard discuss the subject that express messengers, truck and platform men and others who handled the calves along the route were, to judge by their actions, persons either of great innate brutality, or who had become so coarsened and calloused by the low associations and rough work incidental to their business that they beat, kicked and otherwise maltreated these meek and gentle animals out of pure savagery and viciousness.

Now I am a humane man and a lover of dumb animals. I love a good dog above all created things save my own folks and a good book.

I encourage and protect the birds to the best of my ability. I never killed more than three wild things in my life—a crow, a whippoorwill, and a rabbit—and I suffer remorse for all three of those crimes to this day.

Yet because of my early express experiences, I cannot even now, after the lapse of many years, gaze upon a calf without feeling an itching in my right palm for the handle of a stout club. The reader who scans the recital of the following harrowing experiences may possibly experience a slight feeling of sympathy for the harried expressman, but he cannot, of course, even faintly imagine the dreadful realities.

I practically grew up in the express business. I can shut my eyes now and

recall the peculiar odor of an express-car —like no other odor in the world

I can hear the monotonous roar of the train, and feel the sway and bounce of the floor under my feet as I move about with a clip of way-bills in the hollow of my left arm, checking up my freight.

Barnyards on Wheels.

And I can see, in my mind's eye, the menagerie assembled in one end of the car. There would be stacks of coops—each coop from twelve to fifteen inches deep—filled with a squawking, gabbling horde of chickens, ducks, and geese—sometimes all three kinds of fowl in one coop.

There might be a dog or two in a crate, yelping raucously at every breath; at rare intervals there might even be a crated cow or horse, or a box of snakes; but tied to the knob of the end door and to the chain fastening alongside it, there was sure to be a bawling, scuffling bunch of calves—any number, from one or two up.

When I first actually entered the business, as a gawky six-footer of eighteen, out on the old Ohio and Mississippi—which soon afterward became a part of the B. and O. system — thousands of calves were being carried every year into the three terminal cities of the line, Cincinnati, St. Louis, and Louisville — most of them to the first two named.

A messenger on a local train going into Cincinnati was likely at any time to have a dozen or so.

But into St. Louis—ah, there was the calf-market supreme! Those Illinois prairies seemed to us to grow little but calves.

There was one train which left Vincennes early in the morning, reaching St. Louis about noon, as I remember it, which carried so many calves that they finally had to put on a special car for them—one of those old, short express cars, with only one side-door, located right in the middle.

We just turned them loose in the car, and let them bawl and scramble and chew each other's ropes and tags to their hearts' content. We used to call that "the bull run" Fifty and sixty calves was no uncommon run, and those old Illinois farmers even shoved in sheep occasionally.

The biggest single run into St. Louis that I ever heard of was carried by Louie French (dead long years ago, poor fellow); this I was told, numbered 128 calves and 11 sheep.

Imagine the profanity in the St. Louis office when that aggregation arrived!

I broke into the game as calf-wrangler and chauffeur of a four-wheeled platform truck at a little town in Indiana which was rather an important junction point. My first experiences with calves consisted in leading the gentle little things around the platform and in boosting them into the door of an express-car.

A calf does not respond readily to the pull of a leading-rope. The instant he feels your tug at it, he plants his feet firmly against the ground and leans back with all his weight and strength.

In all my experience I never saw a calf that would be led willingly. Try to escort one along a platform and you simply had to drag him, with all four of his legs stiff as pokers and the toes of his hoofs catching in every crevice.

If he stubbed a toe hard enough to fall down as you were leading him to the car, he must perforce be dragged on his side to the door, for there would be no time to help him to his feet, dust him off and apologize when the engine-bell was ringing, and the conductor standing with his watch in his left hand, and his right half-way raised for the starting signal.

The Complete Wrangler.

Perhaps the best way to escort a calf is to walk by his side, grasping the loop around his neck firmly with your left hand and his tail with your right. By twisting the tail or pulling it toward his head, you impart to the calf a willingness to move forward—nay, an eagerness—that is very gratifying.

But beware lest you overdo the matter. You are all right as long as you keep him well in hand; but once let him get a start—"git the purchase on you," as we used to say—and you have two unpleasant alternatives offered you; either to run as fast as he does, or to cast off the rope and let him go. Stopping him is out of the question.

"That Reminds Me—"

More than once, while tearing along after a runaway calf, I have thought of the old story of Bill, the hired man, who tried to lead a yearling steer out to pasture, when the steer took charge of the situation, and ran away with Bill. As he was going down the road in fifteen-foot leaps, still grasping the rope, he passed an acquaintance, who roared out:

"Hey! Where ye goin', Bill?"

"Derned if I know!" said Bill. "Ask the yearlin'."

And, having led the calf up to the car-door, there was only one way that we knew of putting him into the car. We handed the end of the rope to the messenger, and he hoisted away on the forward end of the animal, while two of us deck-hands each grabbed a fore leg and a hind leg and tossed him briskly right into the door.

The good people who had little to do but come to the station and see the trains go through regarded the whole process as brutal in the extreme, though I never saw a calf lose a single fleck of skin in the operation.

I always tried to be a decent sort of chap around that little town, but I could see that the daily occurrences at the railway station had convinced many people that I was a coarse and sensual brute who would be thoroughly capable of knocking his grandmother down and throwing her in the fire.

But what would you? We had to put those calves on the train, and do it *pronto*, for no conductor in those parts was ever known to wait long for express matter to be loaded.

If the baggage and passengers were aboard, he couldn't see any excuse for fooling around longer. We therefore had no time to be delicate in our attentions to the little pets.

Some of the boys down at Louisville once got into trouble over this question. It has been something over twenty years, I think, since this item appeared in a Louisville paper:

> Lately a number of complaints have reached the police and the Humane Society regarding the abuse of calves by expressmen at the Union Depot at 7th and River. Clerks working at the back windows of buildings fronting on Main Street state that they have observed numberless cases of cruel treatment of these animals.
>
> Yesterday a call came for police to go to the station, and officers Brown and Jones were sent to the trainshed, where they found two expressmen, Lou Cravens and William Smith, beating a calf. The men were arrested and taken to headquarters, where friends made bond for them in the sum of $250 each.

Reading the terse description of the outrage, as quoted above, you at once picture to yourself two low-browed huskies standing and hammering away on a defenseless little animal with knotted oaken clubs, out of pure bestial cruelty. As a matter of fact, Cravens explained that Bill was just leading the calf to a wagon, while he, Lou, was following behind, occasionally spanking the little innocent on the rump with a fragment of barrel-stave, to accelerate its progress.

Animal Started the Feud.

He also testified that he had a plenty of reasons for assaulting the animal, had he so desired, for that it had just previously kicked him on the shins, and then dragged him, stomach-first, across the edge of a truck, so that his food was of no value to him for several hours.

But naught availed to save the boys from a fine and a stern warning from the court; and they went out thence with an added bitterness in their hearts against the bovine tribe.

At our little town, the local trains going toward Cincinnati (our nearest market) stopped at the farthest end of the platform from the express office, a distance of over a hundred yards. At that point a stout iron ring was fastened to the platform, and there our honest yeomen who had calves for shipment to Cincinnati were supposed to tether them.

"Ein Kalb—Zinzinnati."

Some parts of our county were populated entirely by Germans. Going through those sections you might almost imagine yourself in the Fatherland; you heard nothing but German spoken.

There were actually men around there who couldn't speak a dozen words of English; and there were others who could speak a little English, but couldn't read or write a word of it.

The commission houses in Cincinnati would solicit business from these men, enclosing a bunch of their shipping-tags in the letter, which of course had to be read for the recipient by an English-speaking neighbor. Then Anton or Johann would attach one of the tags to his veal calf, bring him to town and tie him to the ring in the platform.

Next the express office would be invaded by a stolid German who would point toward the end of the platform and probably say tersely:

"*Ein kalb -Zinzinnati.*"

When asked for the name of the consignee he would probably either be unable to understand us, or totally ignorant of the name because of his inability to read the tag. And again sometimes the farmer would just tie the calf to the ring and go about his other business, trusting to us to do the rest.

In either case it was necessary for one of us to trot down the platform and read the animal's tag before making out receipt or way-bill.

But when approaching a calf upon such an errand, it was necessary to use extreme caution. When tethered to a fixed spot in this manner, a calf becomes obsessed by an insane desire to run—especially if approached by a human being.

His tether prevents an extended run in any direction save that of a circle, so he runs in circles, utterly heedless of your desire to approach and fondle him. I have been knocked flat and run over on more than one occasion by an excited calf whose destination I was endeavoring to ascertain.

One morning we discovered that some farmer had tied a considerably oversized calf to the ring and disappeared. Charlie Verplanck, one of the clerks in the office, was sent to learn the name of the consignee.

Charlie, having had experience, approached the brute cautiously and in open order. It backed away two or three steps, until halted by its rope, then lunged forward and started to run around a circle whose radius was represented by the length of the rope, and whose circumference, by the merest chance, passed directly between Charlie's legs.

A Little Rough Riding.

The result was that Charlie instantly found himself seated astride the calf's neck with his face toward the tail, clutching wildly at the loose hide of the beast to steady himself, and riding backward at the rate of apparently forty miles an hour.

It was a thrilling spectacle. For the first round or so Charlie managed to follow pool-table rules and keep "one foot on the floor"; but after that he lost control of the situation.

Old Bill Hoskins, the leading town loafer, who was spending the morning on the edge of a baggage-truck, counted the revolutions, and he claimed that Charlie went around thirty-one times before being unseated.

His steed finally flung him, breathless and dizzy, right across the main track just as No. 7 was pulling up to the platform. Kind hands dragged him from the rails, else he must have been dismembered before our eyes.

But Charlie's stern devotion to duty still stood supreme. As he sat against a truck-wheel, trying to recover his breath and steady his swimming head, he looked up apologetically at the agent, and gasped:

"I—I didn't get that address, Mr. Jones."

Maypole Dancing Too.

Occasionally there would come a brisk morning when four or five calves were tied to our hitching-ring. Then such a scuffling and bawling and winding up and tangling of ropes!

The maypole dancers of old had nothing on these calves when it came to weaving intricate patterns around the common center.

It was while attempting to unsnarl and untie these ropes at train-time that calves used sometimes to get away from us. I have known them to break loose and run clean out into the country before they were caught. We never lost one entirely, though we generally had to hire a few boys to assist in running them down.

Of course calves were received entirely "at owner's risk," but our agent was one who tried to please the public and who realized that if we let calves escape it would hurt business.

Once we took on at the office a big, earnest, clumsy fellow named Beene. Among other things it was impressed upon him that he must under no circumstances be so careless as to let a calf escape.

Well, one morning we were loading a bunch of the little rips on No. 16, when Beene let a rope slip from his fingers, and away went the calf with Beene thundering along after it, leaving us to finish loading the run as best we might.

We didn't see any more of Beene until 2 P.M., when he and the calf arrived, both in a state bordering on exhaustion. He had chased it, single-handed, all over one side of town and then out into the Deer Creek neighborhood, nearly three miles distant.

One of my earliest recollections of the calf as an express package goes back to the time when, as a boy of twelve, I rode with a messenger in one of those "combination cars," half smoker and half baggage and express, which was so crowded that the stacks of baggage and freight shoved the bell-cord up against the roof, and the calf, tied to the knob of the end door, breathed lactiferously down the messenger's neck as the latter sat on his safe, writing up waybills.

The messenger had hung his only towel—a discouraged one at that—on the end of an empty chicken-coop to dry out a bit, and the calf got hold of it. Those who are acquainted with the temperament of a calf know how one likes to chew or mouth a rag or something similar.

When the messenger discovered that towel, it was a mere pulpy, slimy mass. I have never forgotten his mien nor his language.

I recall that on one occasion some years later, when I was in the business myself, there was in a car a pasteboard box containing a $75 silk dress. A hole was accidentally torn in one corner of the box, and a calf dragged the greater part of the dress out through this hole, and chewed it to a pulp.

How Floor-Soup Is Made.

Then take the case of John Becker, messenger. First, let me explain that on runs which haul large quantities of fish, oysters, ice, eggs, and live stock, there is generally a thin, black, filthy soup compounded of various ingredients, sloshing to and fro across the floor of the car as it sways around the curves.

John was jammed into one of those combination cars, where the package freight rubs elbows with the calves and chickens. While he, with his back to the only calf in the car, was writing up waybills, the animal managed to get a paper box containing a handsome party gown down in the welter on the floor, and stood upon it.

When John next looked around, both

box and gown had become thoroughly soaked, and the calf was standing with both foremost hoofs punched clean through the limp and sodden pasteboard and the delicate lace and chiffon of the dress, gazing languishingly upon him with those limpid, fawnlike eyes which have gained the species so much commiseration and sympathy.

Did John swear and kick the calf? I leave it to you, my masters, what else could a poor devil do? Had he tried to restrain his feeling, his rage must have burst him asunder like a dry bladder.

The city offices had their troubles with calves, too. When I was in the St. Louis office—the depot office down at 20th and Clark Avenue—we who were not actually in the freight-room could always tell when one of the bull runs had come in from Illinois.

Bull Run Refought.

The calves, after being unloaded from the car, must be led across the big freight-room to the wagons. Such a bawling, scuffling, swearing and yelling as this brought about I have never heard before nor since. The pandemonium was terrific.

Some of the rousters got their calves across very nicely by maintaining a firm grasp of each end of the animal. Anon a big 300 or 400 pounder would dash across the room with a sweating deck-hand clinging desperately to the rope, and touching ground only every twelve or fifteen feet. Sometimes a calf or two got clean away and out into the street; and then a pretty chase ensued.

Aaron Avoken was a genial Armenian roustabout at our office in those days. I remember Aaron best by the fact that his medical knowledge was limited to only two kinds of illness; when ailing, he was either "seeck in da head" or "seeck in da bel'."

Well, one day Aaron twisted the tail of a young black steer too hard, and the alleged calf ran away with him. Forsaking the open trail to the wagons, it zigzagged about among the freight-piles, Aaron still clinging to the rope and tearing madly after it.

Where the Grapes of Wrath Were Stored.

At length it leaped airily over a big bag of potatoes, crunched through a pile of baskets of fine Concord grapes (the size you pay thirty to forty cents for in the fall) and let out a fresh burst of speed. Aaron's ponderous feet failed to clear the bag of potatoes, and he fell with a deafening crash full length among those fragile grape-baskets.

But he held manfully to the rope, and as he slid, he smeared across the floor a gory-looking trail full three feet wide and thirty feet long of splintered grape-baskets and rich, purple grape-juice.

I have seen a calf, loose in an express-car, blunder across a stack of those grape-baskets and do five or ten dollars' worth of damage in a minute—damage which it would take the messenger six months to explain.

We two receiving-clerks at the St. Louis office, together with three other fellows, had our office up at one end of the long freight-room, where a space about twelve by twenty feet was enclosed for us. The receiving-clerks were at one end of this space, while at the other George Bly and Eddie Jerolamon, alias "Jerry," sat on high stools, monotonously calling off and checking figures nearly all day long.

At first I used to stop my work to watch the Wild West program out in the freight-room; but I soon found that if I didn't keep digging away at my routine I could very easily get two or three days behind with it in less than twenty-four hours.

One day one of the bull runs came in, and the usual uproar broke loose. I was pretty well used to it by that time, and never raised my eyes from my work.

Suddenly I heard a quick patter of hoofs on the floor just outside our door, and then a tremendous clatter and loud imprecations from the other end of our office. A calf, breaking away from its

captors, had galloped down a long lane between piles of freight directly to our door, and in desperation, had fled into our sacred precincts.

As I turned to look I saw Jerry flat on his back on the floor, while George's high stool, with George atop of it, was just tottering to its fall.

Movie Stuff.

At that moment two 200-pound huskies in pursuit of the calf, dashed through the door, and a scene of riot and devastation followed. The three raged about the place like a typhoon, sending packages, books, stationery, clips full of papers and quart bottles of ink in all directions. They upset Mike Murray's table, spilling about seven bushels of papers and other junk on the floor; they broke another high stool, a chair, and one of the supporting legs and a shelf from under the receiving counter.

Being strictly neutral, I had taken refuge on top of the counter, and came through unscathed. When the calf was finally overpowered and led away captive, our once peaceful office looked as if it had been dynamited.

I cannot close this recital without relating an incident, funny now, and in fact rather amusing to me at the time, though vastly discomposing to one Henry Finley, messenger on the O. and M. We were shooting a miscellaneous assortment of country produce into his car one morning at top speed, and one of the first articles we handed him was a lively calf.

The conductor was impatient, as usual; we had a full truckload of freight to put aboard, and being compelled to keep the car-door clear of the stuff as we put it on, Finley hadn't time to tie up the calf; so he just headed it toward the end of the car, gave it a swift kick, and turned back to his freight.

On the floor on one side of the car was a single coop of chickens. The calf galloped over some packages, punching holes in them with his hoofs at every step, and landed on top of that coop.

Like most of the shipping-coops of that day, its top and sides were made of ordinary lath, which, of course, the calf's weight broke like straws. He fell on his knees, plunged, broke through, and fell, again and again.

At every leap he broke two or three slats, and the chickens poured from the coop like bees from a disturbed hive. They permeated the whole car; its atmosphere was thick with chickens, loose feathers, and the curses of the distracted messenger

"Some Chickens!"

In the midst of the mêlée, the conductor gave the signal and the train moved off just as we shoved in the last five or six pieces of freight. In grabbing for the chickens, Finley had failed to keep the door clear, and we had blocked its whole vicinity with barrels of cantaloups, cases of eggs, tubs of butter, and sacks of green hides.

As the train pulled out, he was sprawled across this mess, clawing frantically at the door in an effort to get it shut, but an egg-case projected just far enough to prevent his doing so. As the train sped along through the yards and passed from our sight around the curve beyond, chickens dribbled steadily from the express-car door—one, two or half a dozen at a time—and went squawking and zigzagging wildly across the landscape.

No use talking; I can't love a calf. I don't suppose I shall ever feel differently.

THE CHIEF CLERK SAYS:

Many an office boy doesn't need to be told to Stop, Look, Listen!

FROM THE RAILROAD MAN'S MAGAZINE.

Help for Men Who Help Themselves

NUMBER 82.

INDIVIDUAL CONTROL OF ELECTRIC LOCOMOTIVE TRUCKS.

BY H. A. KENNEY.

THE general statement that with equal weight on driving-wheels, one pound of coal burned in a power-house will produce twice as much draw-bar pull on an electric locomotive as a pound of coal burned in the firebox of a steam locomotive has been proved true in practise. Even this high ratio has been exceeded in the switching service, where stand-by losses are great.

A large contributory cause of these economies in the use of electric engines is credited to the prevention of slippage of the driving-wheels through the individual control of electric locomotive trucks, according to the best present practise.

The hauling capacity of a locomotive is materially increased if it is possible to maintain a maximum tractive effort without slipping of the wheels. No means have as yet been found to prevent the wheels from slipping, but in the 270-ton Baldwin-Westinghouse electric locomotive illustrated, as used by the Norfolk and Western Railroad, the probability of slipping is reduced to a minimum by the proper application of the electrical equipment and the method of control employed.

First Drivers Were Rigidly Connected.

In the first steam locomotives designed, all the drivers were rigidly connected through the side-rods with respect to rotation. By this method if adhesion was low all the wheels slipped simultaneously.

Later, as weights increased, boiler-pressures raised, and the dimensions of steam cylinders expanded—thus producing a greater power thrust from the piston—a subdivision was made, and the drivers were usually arranged in two groups, one group being driven by one set of cylinders and the second group by another set. With this arrangement, one set of drivers might slip while the other set might remain fully tractive.

However, even with the Mallet type of steam locomotive, loss of adhesion on any set of drivers immediately reduces the

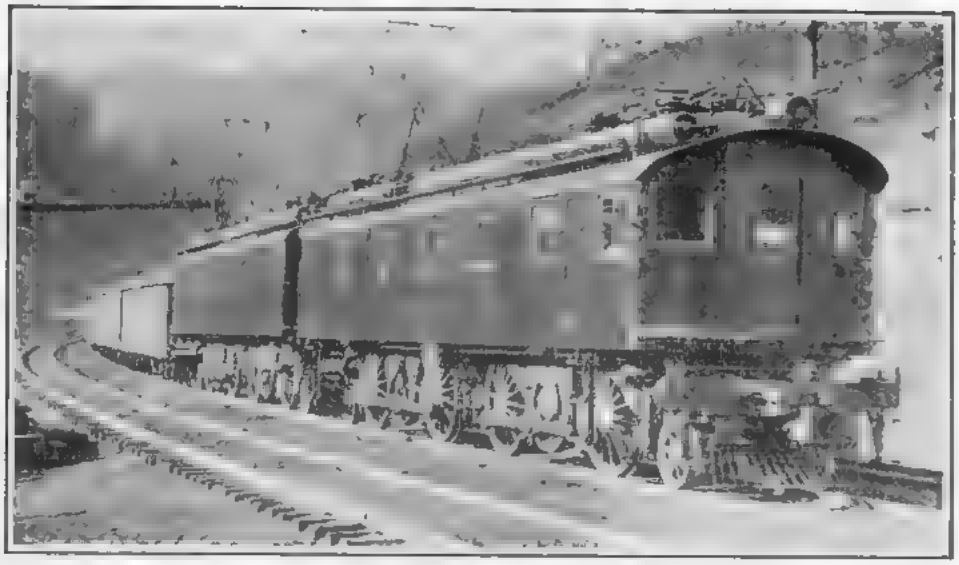


FIGURE 1—IN THIS TYPE OF BALDWIN-WESTINGHOUSE ELECTRIC LOCOMOTIVE, NOW IN OPERATION ON THE NORFOLK AND WESTERN RAILROAD, THERE ARE TWO CABS WITH TWO SETS OF DRIVERS UNDER EACH

tractive effort of the locomotive to approximately one-half of normal. This, while objectionable, is a decided improvement over former practise, when all drivers were rigidly interconnected.

The subdivision of drivers into groups pointed the way toward a probable solution of the problem of wheel slippage. But, owing to the pulsating effort of the steam locomotive directed against the drivers, it was not until the introduction of the electric locomotive that any material decrease in slippage seemed possible.

In the type of electric locomotive shown in Figure 1, there are two cabs with two

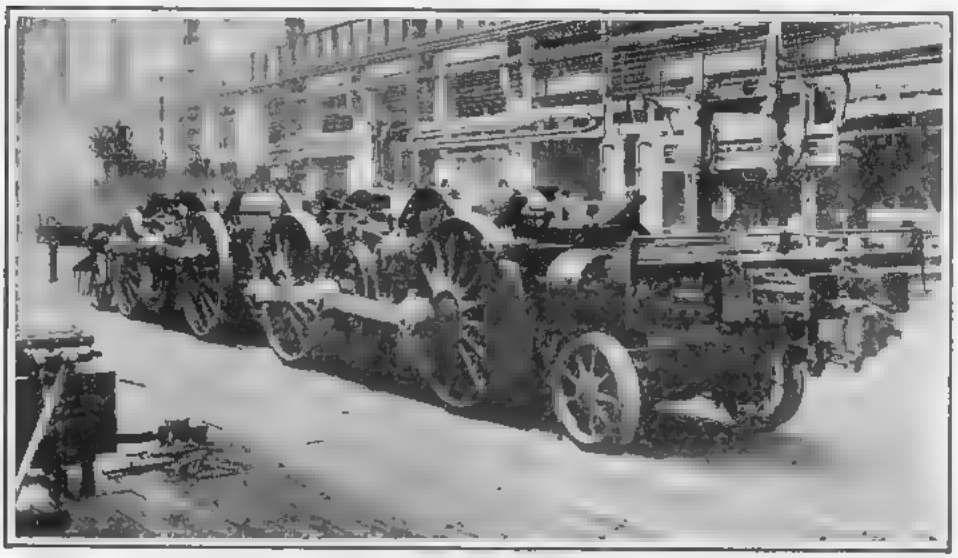


FIGURE 2—THE DRIVERS ARE CONTAINED IN TWO INDEPENDENT TRUCKS THE TWO UNDER THE FIRST CAB ARE KNOWN AS THE FRONT HALF, WHILE THOSE UNDER THE SECOND CAB ARE CALLED THE REAR HALF.

sets of drivers (four pairs) under each, contained in two independent trucks (Figure 2). Each set of drivers is free to move from the effort of two motors geared through a jackshaft in the truck to rods connecting the drivers (Figure 3).

The two trucks under the first cab are spoken of as the front half, and those under the second cab as the rear half.

By means of ammeters mounted in the cab, the engineer is able to determine at all times the exact effort at the track that is being put forth by each pair of motors through any set of drivers, and to control this effort, thus preventing, to a large degree, slippage of the wheels. The method employed is as follows:

As shown in Figure 4, the engineer's cab contains a master controller to the left, a set of ammeters immediately above, and an auxiliary controller directly in front under the cab window. By means of the master controller the engineer sets the speed at which it is desired to run and is able to accelerate the train to that speed and then hold it.

14 Miles for Heavy Trains.

The upper handle of the master controller is used for setting the speed. For heavy freight this handle is set at 14 miles an hour. For passenger-trains and other light movements the handle is either set in the 28-mile position or first set in the 14-mile position and then, after the train is accelerated to this speed, raised to the 28-mile position.

The lower handle is used for accelerating the train to full speed.

After the upper handle is set for the speed it is desired to obtain, the accelerating handle is placed in the raising position, and then as the train picks up it is shifted from that position to a holding position similarly to the manner in which the well-known air-brake handle is operated.

If acceleration should be too rapid, it is possible to decrease same by going back to the lowering position and passing again to the holding position.

The manipulation of this handle operates a controlling mechanism for all sets of drivers in unison. Thus each set should be putting forth the same tractive effort. If they are, each will be drawing the same amount of current.

Keeping Tab on the Juice.

The current that each is drawing is indicated on one of the four ammeters above the master controller. These ammeters have vertical scales, one being provided for each truck or set of drivers. Should a set of drivers slip during acceleration, the sudden reduction in the amount of current being drawn by that particular set will be indicated on the corresponding ammeter in the cab.

As soon as the engineer notices this slipping, which might be detected by sound, but more certainly by a glance at the ammeters, it is only necessary for him to manipulate one of four levers on the auxiliary controller directly in front of him, and so reduce the tractive effort of that particular truck until the drivers cease to slip.

It is possible for him again to increase the tractive effort up to the load carried by the other trucks without changing the adjustment of or the tractive effort exerted by the other three trucks. This auxiliary controller is so arranged that the tractive effort of any of the four trucks can be increased or decreased at will by the engineer, within the range of the locomotive capacity.

Slippage Means 25 Per Cent Power Loss.

Usually, if one set of drivers slips, 25 per cent of the full tractive effort of the locomotive is lost. However, in this particular instance, as the trucks are fitted with relatively constant-speed alternating-current motors, a small decrease in train-speed increases the tractive effort of the three remaining trucks enough to make up for the tractive effort lost by slipping, unless these remaining trucks are already exerting all the power the motors will safely stand, as a set of relays limits the

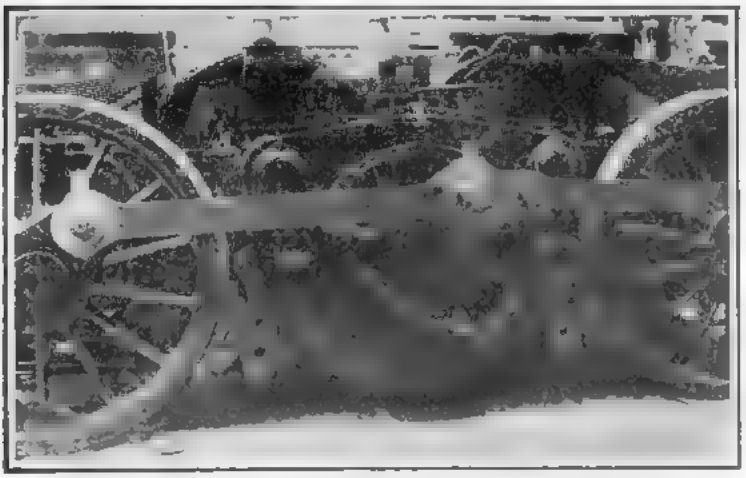


FIGURE 3—EACH SET OF DRIVERS IS FREE TO MOVE FROM THE EFFORT OF TWO MOTORS GEARED THROUGH A JACKSHAFT IN THE TRUCK TO RODS CONNECTING THE DRIVERS

tractive effort of each truck to a safe value.

The decrease in train-speed is less than would occur with varying-speed motors. This is especially desirable in accelerating heavy trains, as it shortens the time necessary for acceleration by decreasing slowdowns due to slipping.

Slippage of wheels of a locomotive, in addition to lowering the efficiency of the locomotive, brings about two conditions—wear and tear of the track and rack and tear on the locomotive.

When the wheels of a locomotive slip, an inspection of the track after the train has passed will often show, if there has been considerable slippage, that several of the rails have been badly "burned" and ground out, making little pockets in the heads of the rails. This will cause violent bumping at that point whenever trains pass subsequently.

Very unusual stresses are caused by this bumping, and if the grinding of the rail has been bad enough, as is frequently found to be the case, it is necessary to take up the worn rails and replace them to prevent ultimate breaking of the rail at this point, and to obviate a possible wreck.

In one specific instance, where a locomotive was in a tunnel when slippage oc-

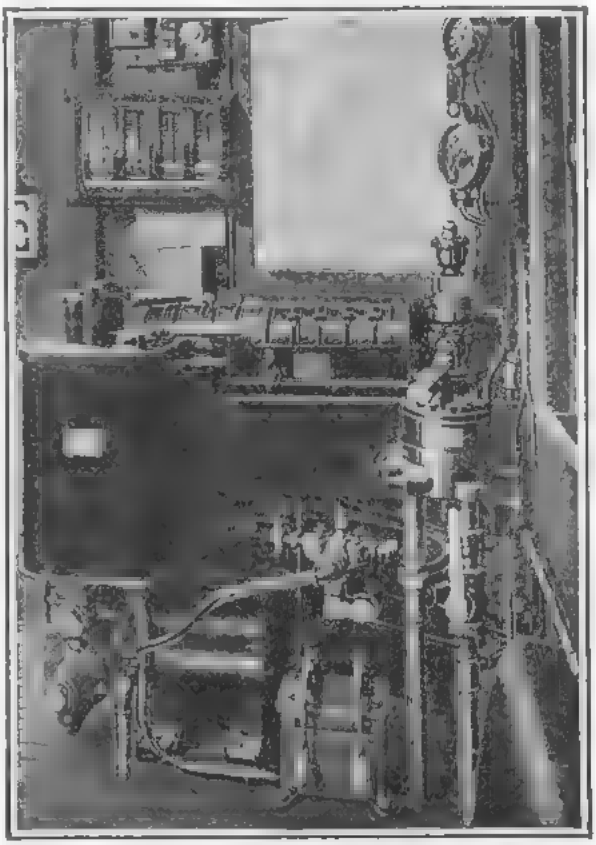


FIGURE 4—BY MEANS OF AMMETERS, A MASTER CONTROLLER AND AN AUXILIARY CONTROLLER MOUNTED IN CAB, ENGINEER CAN ACCELERATE AND HOLD SPEED DESIRED, AND DETERMINE EXACT TRACTIVE EFFORT AT TRACK OF EACH PAIR OF MOTORS.

curred, and the engineer had no means of knowing whether or not the locomotive was moving, the rail was cut in two and traffic considerably delayed pending replacing of the rail.

The effect on the locomotive will be to heat up the tire, which will produce a similar condition to that obtaining with the rails. If the slippage has been severe, the tire may even tend to expand and fall off.

With electric locomotives this slippage will also cause the motors to heat up considerably and may burn them out, as during slipping periods unusual currents are drawn by the motors. With steam locomotives severe mechanical stresses to operating parts will obtain.

MAKING THE GRADE.

BY J. E. CHRISMAN.

DOUBLE-HEADER, heavy sledder,
Coming up the hill.
Superheaters, tonnage-eaters,
Surely got their fill.
"Six eleven," "Four-O-Seven,"
Twenty hundred ton.
Going to make her? Have to shake her!
Let her have the gun!

SMOKE a boiling, fireboys toiling,
Shacks a riding high.
Wheels a grinding, flanges binding,
Barely oozing by.
Hogger flail her! Don't you fail her!
Make her pound her ear!
Time'll nab us, Hog Law grab us—
Dare not stall her here!

NOW she's drumming, got her coming,
Getting near the top.
Fireman stoke her! Don't you choke her!
Make her safety pop!
Cinders raining, drawbars straining,
'Fraid we'll pull a lung.
Lots of trouble, had to double,
If they hadn't hung!

WHEELS a clicking, brakes a sticking,
Forty miles an hour;
Tallows resting, shacks a jesting,
Clear board at the tower.
Markers streaming, whistle screaming!
Going fit to kill!
Crummie's coming, con's a humming,
Coming down the hill!

SAVING RAILS AT THE CROSSING.

WHEREVER A MOVABLE POINT CROSSING IS USED INSTEAD OF RIGID FROGS THE JAR ON TRAINS IS ALMOST ELIMINATED AND WEAR AND TEAR ON TRACKS REDUCED GREATLY.

THE life of railroad tracks has been lengthened considerably wherever a movable point crossing, giving a continuous running rail on either side, has been put in operation.

Crossings whose continuity is broken by use of rigid frogs have always presented a problem to track engineers. Such breaks not only jar the entire train as it passes over the open space, but cause the train-wheels in turn to deal rather severely with the tracks. As a consequence, the upkeep at such crossings proves a rather expensive proposition.

One of the simplest of the devices that has resulted from this need is that of the Eymon Continuous Crossing Company, of Marion, Ohio. It consists of four triangular movable frog-points, or frog-corners, at the four intersections of the gage lines.

The movements of these frog-points are controlled by rods passing under the base with horizontal offsets moving through slots in movable castings. These bars are designed for direct connection to the lever in an interlocking tower, which moves the point from one position to the other by the direct forward or backward movement of the bar without any intermediate joint.

Bolt-locks, operated by two levers from a tower fasten each corner into the proper position in order to keep the points from moving under a train. Three levers are used in operating the crossing, one for the frog-points and two operating the bolt-locks.

The latter are connected up with the derail levers, one set for each road, so that on an interlocked crossing only one additional lever is required, operated by either electrical or manual power.

In this type of crossing no special foundation timbers or foundations of any kind are used, only ordinary timbers, such as are employed in the usual open-throat crossing. In fact, the old crossing may be thrown out and the new one put in without any preparation.

A RAILROAD RUN BY ONE MAN.

Woman Tries It, Too, But Loses Out When the Taxes Become Larger Than the Revenue.

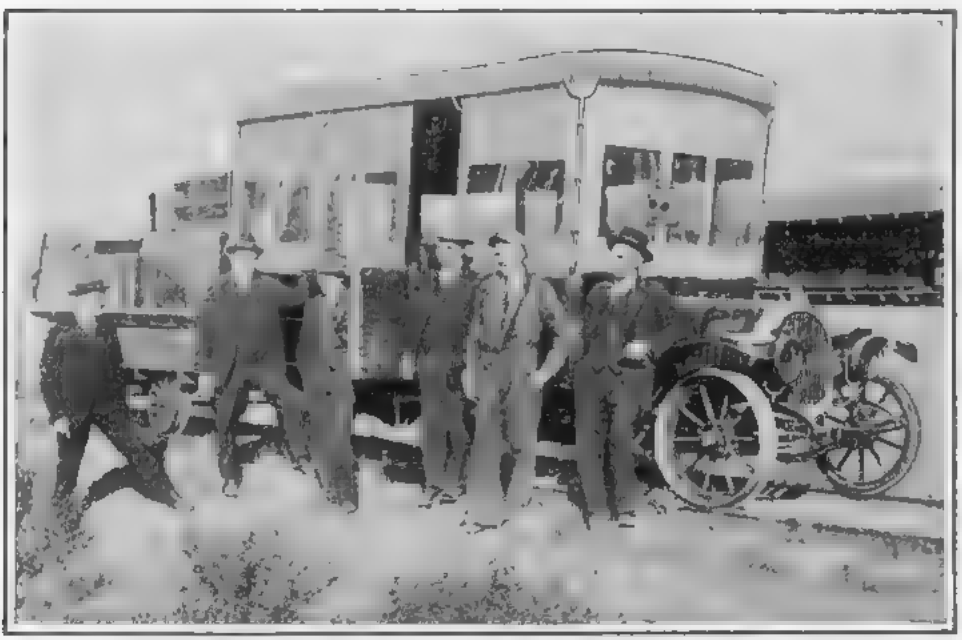
WHEN one considers how varied are the details and operations of a railroad, calling for the special knowledge of all sorts of men, it is rather startling to discover an instance where one man has the hardihood to try all ends.

There is an instance of the sort, the case of a one-man railroad, and be it said that the experiment is a success.

An opportunity to own and operate a railroad also presented itself to a woman in this country, not long ago, but she preferred to teach school, and her railroad went to the junk pile.

C. W. Young, of Gooding, Idaho, is the hero of the successful one-man line. He has seen big railroad service, and he knows the game. He declares that he is having the time of his life, and he looks prosperous and happy.

When the Idaho Southern Railway, which was built between Gooding and Jerome a few years ago, for use in the construction of the great Twin Falls irrigation projects, was abandoned, Mr. Young saw his chance to go into the railroad business as a proprietor. He had plenty of enterprise, pluck, and enough capital to make the venture. The people of Gooding and Jerome needed a line of communication, though the traffic would not be heavy. The track was there, in



WHEN C. W YOUNG DISCOVERED THAT THE PEOPLE OF GOODING AND JEROME, IDAHO, NEEDED A RAILROAD, HE BOUGHT A 16-PASSENGER HIGH-POWERED AUTOMOBILE, PLACED IT ON RAILS ALREADY THERE, AND WITH TWO LIGHT TRAILERS FOR FREIGHT AND EXPRESS SERVICE ANNOUNCED THAT HE WAS IN THE RAILROAD BUSINESS.

good order, and it needed only a train with a man to operate it.

Mr. Young got busy. He purchased a sixteen-passenger, high-powered automobile, and had it fitted with flange wheels. The automobile was placed on the rails, and with two light trailers for freight and express service, answered the purpose.

"The Mate and the Captain Bold—"

Then this plucky railroader announced that he was ready for business. He is president, vice-president, secretary, treasurer, conductor, engineer, fireman, brakeman, switchman, station-agent, section boss, baggageman, shopman, claim agent of his own line, and if there is any other odd job requiring the services of an able and industrious railroad hand, why, Mr. Young just jumps in and does it.

He hired himself, and declares that nothing would induce him to hand himself a blue pay-envelope, so long as his passengers and shipping patrons are satisfied with the service rendered. Mr. Young has no ambition to extend his line to Chicago or San Francisco. He is not fired by any wild financial ambitions. He is content to derive a perfectly good, man-size income from service worth 100 per cent what he charges for it, and no swivel-chair luxury appeals.

She Didn't Want a Railroad.

Miss Helen Martin might be the proprietor of a one-woman railroad if she had been able to follow the example of Mr. Young. Instead, she is teaching school in Kansas City.

A few months ago Miss Martin gave up all right, title, and interest in her railroad because she could not or would not pay corporation tax. In addition to this she gave permission to use the wooden pieces of the rolling stock for fuel. Her railroad was chartered as the Arkansas River Valley and Northwestern.

This line was promoted in the early seventies to operate from a town called Martin City, Kearney County, Kansas, to some point northwest of there. History does not give the destination in the minds of the promoters when the railroad was named. It may have been Chicago. Promoters had big dreams those days.

The road was graded for half a mile and part of the track laid for that distance. Then the panic of 1874 struck Kansas and, added to the plague of grasshoppers and drought, put the road on financial rocks.

The engine used in building the few hundred feet of track was returned to the builders, because it had not been paid for, and the three or four box-cars owned by the road were left in the middle of the field.

Because Miss Martin's grandfather was president of the company, she succeeded him in the course of time. For a few years she kept a record of the meetings of the officers and directors, which consisted solely of Miss Martin herself. There may have been other officers, but their names have been obliterated by the hand of time.

Then the Taxes Came Due.

Years later — 1915, to be exact — the price of wheat went away up, merely because several rulers of the old world got peeved at each other, and Miss Martin leased the farm to a wheat grower. He plowed over what was left of the grade, and around the rotting cars.

The wheat yield was profitable, and Miss Martin congratulated herself that the 160 acres of land went with the railroad.

However, Miss Martin one day received notice from the Secretary of State of Kansas, that the corporation tax on the railroad was due, and as he had received no statement of its earnings and expenses he would have to take up the charter. He was instructed to take it up or throw it away or use it for wrapping-paper, if he wished. The lessee secured permission to use what was left of the cars for fuel. Thus passed one of the big dreams of the boom days of Kansas. And Miss Martin is now back teaching school.

HARK TO THE VOICE OF THE HOBO!

Charlie Chaplin, Jeff Davis, and Others Raise Their Voices in Defense of the Blind-Baggage Rider.

THAT Charlie Chaplin, the comedian, who is said to be getting a salary of $670,000 a year, was a hobo only some five years ago, is but one of the interesting facts revealed in the great mass of letters that have been pouring in ever since the publication of Samuel H. Paine's article, "Ditching the Hobo," in the April issue of the RAILROAD MAN'S MAGAZINE.

There have been all sorts of comments from our readers—knocks and boosts. And they have come from all sorts of people—former hoboes, present hoboes, and some who never have been hoboes. Unfortunately, all the letters cannot be reprinted, so a few representative ones have been selected. And even in these cases, the editor has been obliged to cut out some very interesting parts on account of the limitations of space.

We're "Full of Bull."

To start off with a knock, here is a card from a bo who evidently did not take at all kindly to Mr. Paine's views:

I am writing this to let you know that I think you're full of bull. I have followed the road myself for over eight years, and I have never seen conditions as you claim. It is more often the brakeman that robs the box cars and throws people off of a train.

From one who knows.

W. MOWER,
King of the Road To-day.

But it all seems to be a matter of point of view. For here is a letter typical of what a great many of the boys thought on the subject. There doesn't seem to be any doubt whatsoever about the way this reader feels.

"Hits Him between the Eyes."

I have been a reader of the RAILROAD MAN'S MAGAZINE for the last two years, and I must say it is one dandy bunch of reading—the best I ever got hold of. Everything good from cover to cover.

I liked that first feature, "Ditching the Hobo." That hit me right between the eyes. I am a reformed hobo myself; know all the ropes; was one of Jeff Davis's lieutenants. I am now doing police work. Wish you would publish a railroad song beginning, "Life is Like a Mountain Railroad."

Anxiously waiting for the next issue, I remain.

HOWARD FORD.
900 South Third Street,
Minneapolis, Minnesota.

Jeff Davis, "King of the Hoboes," and father of the Hotel de Gink which stirred up so much comment in New York a few months ago, takes the opportunity to comment on Mr. Paine's article. Jeff makes most of the point that there is a distinct difference between a hobo and a tramp and between a tramp and a bum.

In fact, he maintains that he has traveled 670,000 miles—ten times across the States and three times around the world—just to teach people the difference between these classes of road gentlemen. He writes:

Hobo Not a Tramp or Yegg.

I have been at all times a reader of the RAILROAD MAN'S MAGAZINE. I have gone out of my way to get a copy of it, and shall continue to do so. I have thousands of friends among the railroad men, and am personally acquainted with Mr. Lee, president of the Brotherhood of Railroad Trainmen.

I have attended the conventions of the American Federation of Labor for the past eight years, and am known to them as a reliable man.

There is a story in your April edition called "Ditching the Hobo," written by Samuel H Paine. It makes mention of me

Had Mr. Paine known me, he would not have been so unjust in his criticism of me. Had he known the difference between a hobo, a tramp, and a bum, he would have had a story that would really have made very interesting reading.

Had he known that the Hotel de Gink, in York City, worked for the city of New York, clearing off the streets and sidewalks, and doing other valuable work, to the tune of two thousand dollars which we let go on payment of rent, water, gas, and electric bills, worked for meat, bread, *et cetera*, perhaps he wouldn't have written that we "grafted on the spirit of generosity" of people in New York

Mr. Editor, that writer made a bad mistake in writing without first being sure of his statements. He not only has me wrong, the Hotel de Gink wrong, the hobo wrong, but his story is all wrong. It should have been headed, "Ditching Tramps and Yeggs"

There are thousands of union men throughout America, prominent members of the Hoboes' Union, "Hoboes of America," who also can tell you that a hobo will work, a tramp won't, and a bum couldn't if he wanted to.

Congressman Frank Buchanan is one; Pat Salmon, of Typographical Union No. 16, is another; Charlie Chaplin was a hobo for several years and joined the organization in Los Angeles in the year 1913. The purpose is to help those who want to help themselves, to send runaway boys back home, and establish men in good positions

I am just finishing my third tour around the world, and expect to be in New York City shortly. I have traveled the world, and can always return wherever I have visited.

I have letters from presidents, governors, and mayors praising me for the good we hoboes have done. I am sure you will be fair enough to give us a chance to square ourselves before the readers of your valuable monthly magazine.

Sincerely yours with best wishes,

JEFF DAVIS,
King of the Hoboes.

Syracuse, New York

World's record, 670,160 miles—ten times across the States and three times around the world; not as a freak, but with a set purpose of sifting out the hobo from the tramp, for I am a bo, and will be with them to the end

Charlie Chaplin Once a Bo.

"King" Davis's notion of class distinction between hoboes and other migratory groups of men seems to be held pretty generally by his "subjects" and others, judging by the letters which have been received. In fact, W. G. Lee, president of the Brotherhood of Railroad Trainmen, in answer to an inquiry asking him to verify the assertion made by "the King of the Hoboes," writes in part as follows:

"His statement, however, that some of the most competent workmen of nearly every craft are 'hoboes,' but not tramps or bums, is true."

In addition comes this corroboration from the far-famed Mr. Chaplin:

The statements that Mr. Jeff Davis made, that were incorporated in the letter that he wrote you and a copy of which I received, were true.

I joined the order about the time that Mr. Davis stated

CHAS CHAPLIN.

In this next interesting letter we discover an old-timer, who feels that the hobo has been pretty badly misused and has done a whole lot of good work for the country. He advocates the cutting out of the labor offices and booze, and sending to the pen for a year all men who ride on trains.

Make Stealing Rides Prison Offense.

Just received the RAILROAD MAN'S MAGAZINE to-day, and was sure glad to see it here a day or two ahead of time. I saw Mr. Paine's complaint of the hoboes. Please ask Mr. Paine if he was ever on the road himself, and if he was, how long, and how many people he saw murdered, and how much property he saw destroyed by hoboes, while he was one of them.

Now, I am not a tramp by profession, but as I am a boomer tallow-pot, I have mixed with them quite a bit. I would like to ask Mr Paine how there would be any railroads built or any harvests gathered if it was not for the hoboes. Tell him to ask any large contractor who does most of his work, and he will tell you the tramps.

Now, if a man is broke, and wants to get to a job in some other place, he has to steal a ride or walk. No matter who he is, or what he has been, he is a tramp when up against it.

I have seen some of the country's best mechanics on the road. Of course, it is the wanderlust in most of them, but sometimes it is something far deeper than that.

Now, as far as boes in general being mur-

derers and daredevils, it is not so. They are as meek and as easily tamed as a lamb. I have seen one shack ditch over a hundred of them off a train on the Missouri Pacific out in Kansas on a grade and it raining, with fifteen miles to walk. That doesn't look as if they are bad actors.

And I have known cars to be broken open by yard watchmen and train-crews, but of course the bo got the blame for it; and a lot of times gangs of kids and home guards, who ride trains from one town to another, do the things that the bo is blamed for

And he does not get credit for the good he does. Now, out in Kansas they are good to them while the harvest is going on, and just as soon as it is over they commence to arrest and abuse them. Of course, the country would be better off without them.

About "Labor Offices."

The way to stop a lot of them is to cut out the labor offices. They will ship a man from Chicago, say, to western Iowa for a dollar or two, for some kind of work, and a lot of times when he gets there, there is no work to do. Hence, another tramp

Does Mr. Paine know all of this? I do, anyway. The labor offices have robbed and made more tramps out of young and old than anything else in the country outside of booze.

I hope I have made it plain that the bo is not as bad as some think. They will work when they are broke—that is, the average hobo, although his limit is three months at one place.

Here are some of the things the country is dependent on the bo for:

The Bo Does Work.

The wheat harvest in the West and North; the potatoes in Colorado, the Dakotas, Maine, and Minnesota; the rice and oil in the South; and lumber-camps and river work in all parts of the country. Ask the government how many men they have at work from St. Louis to New Orleans without addresses or homes, and they will tell you a thousand.

I think I know a little about the bo myself But cut out the booze, labor offices, and make it a year in the pen for riding a train, and you will see them die out.

You may print this if you wish, as I am sure it will do no harm. Will gladly tell more if there is any one that wants to hear from me. I don't know where I will be when you print this, but you can bet that I will get the RAILROAD MAN'S MAGAZINE if I have to read it in the shade of the water-tank or by the light of the camp-fire.

I am going to hit the Wabash for a job this summer, and if I make it, I will settle down for a while myself, as they only hit the high places out of Detroit, and that's what I like.

Well, so-long; see you at the end of the run.

J. A. P

(An old-timer)

Hot Springs, Arkansas.

Good and Bad Sorts.

Still another of our readers thinks it an injustice to condemn all hoboes, and holds that his own experience has taught him that they are pretty much the same as other men—some good, some bad. Yet he takes pains to tell us that he does not want to be classed as a hobo, since he has left the road for all time. Mr. McKay, who writes this letter, says that "wanderlust," which is the cause of many boys taking to the road, is just as bad as booze and dope.

I was much interested in the article in the April magazine by Samuel H. Paine, "Ditching the Hobo." I believe he is too hard on them as a class, although it may be true that few of them want work—that is, steady work

I was obliged to beat my way over the Southern Pacific from El Paso, Texas, to Santa Maria, California, at one time, through circumstances that might happen to any one. Perhaps a great many tramps have taken to the road at first in some such matter, and taken to the life better than I did

I find it hard to believe that railroad men are subject to much danger from the good-natured boys and men that were my companions on that trip. One brakeman, however, heaved stones under a box car to dislodge two boys who were riding the "plates," and tumbled off while the train was in motion

Another struck a hobo with a brake-stick from behind as we were climbing down a ladder, knocking him unconscious. I saw both these incidents. I am probably prejudiced in favor of the hobo, as it is my fortune to meet nothing but "good" hoboes and "bad" trainmen.

Evil Due to "Wanderlust."

Of course, with my small experience as a hobo, I cannot set myself up as an authority against Mr. Paine; but I believe the men on the road are just like other men, some bad, some good. Put the hobo evil down to wanderlust, which is as bad as booze or dope

I was eighteen years old at the time of my trip, and was old compared to my companions. I remember a camp made by six of us at one time; the oldest there was twenty and the

youngest fourteen. All except myself were from large cities.

Do not put this down as a letter from a hobo. This was six years ago. I have never been "on the road" since, nor expect to again.

Roy M McKay.

Newman, California

"Railroad Man's" Fair to All.

Our last letter is from a reader who believes that all the hoboes are a much misunderstood class, a product of a remorseless and cruel civilization. Mr. Bront, the writer, while entirely justified in having his own views, makes one mistake.

He seems to be under the impression that Mr. Paine got all his information from the detective forces of the railroads. As a matter of fact, the author wrote his article after careful study.

Whether Mr. Paine was right in his opinions or wrong is not for the editor to say. Our writers all have a right to their own opinions, just as have our readers. And the Railroad Man's Magazine always wants to give every one a fair chance to state his point of view. The present article is being published for that purpose

Mr. Bront's letter follows:

I am an old reader of the magazine, and enjoy much of its contents monthly. But I have a little criticism to make—not of the magazine itself, but of the contributors.

In the April issue, Samuel H Paine gave a lengthy discourse on the hobo. It seems to me that Mr. Paine has had very little experience with this class, and all of his knowledge appears to be gleaned from the detective forces of the different railroads and accelerated by a vivid but somewhat rabid imagination.

Mr. Paine states that the hobo is firmly convinced that the world owes him a living without compensation, and that he is ignorant, prideless, thriftless, slothful, and overwhelmingly lazy.

This statement is untrue, positively. Mr. Paine evidently does not know that there are three classes of migratory workers and non-workers. These are—tramps, bums, and hoboes. The former two are parasites and need no consideration, although they are distinct classes.

Mr. Paine has wrought an injustice against the hobo. The hobo is a migratory worker, who has been produced by the machinations of industry.

He is one who is dissatisfied with a meager wage and impending poverty—the root of much evil—has left his old situation and habitation to seek greater fields of endeavor and greater compensation. A trip to a distant place fetches him up penniless, dirty from travel, and ragged from hard knocks.

Employment in his line of work may be hard to get. There are distinct divisions and capacities in labor as in higher positions. Mr. Paine, who is a writer, would probably fail at track-spiking or lumber-handling, not due to lack of intelligence, but of physical ability and capacity

And the number of open jobs to strangers are only of the lowest, meanest, and poorest paid kind. The hobo is confronted with the choice of this squalid labor or going to the next town. "Hope springs eternal in the human breast," and "distance lends enchantment to the view"

Hounded by Police.

A man who is penniless, dirty, and ragged is a good object for the police of many places to show their authority on. The hobo is meek to their demands, and under the threat of imprisonment for vagrancy on account of his position, notwithstanding good intentions, he is driven out, "rawhided," debased, and jeered at by the police.

The next town is the same. The citizens grin at his discomfiture, but aid is not to be had from any source. Maybe an irate judge, under the lashings of a fanatical clergy and town cranks, imprisons him

The squalid, dirty jail, teeming with vermin, furnishes a "slumgullion" meal or two daily The hobo's mind gets to working. Wrath and revenge rumble in his breast, notwithstanding all good intents and maybe almost spotless character.

He finds every man's hand against him. The desire for revenge is uppermost, and the hobo, the migratory worker, who has built all the great railroads, irrigation projects, and other public utilities, is turned out a crook, a bum, or a tramp.

Driven from one place to another by the ruthless hand of the police and society, with the rankling for revenge for wrongs committed for the unacted sins and crimes, it is little wonder that our prisons are full, our almshouses crowded, and a great army of professionals begging their living from town to town, goaded, lashed, and rawhided by the police and society, until, broken in spirit and in health, the sink to a horrible death from disease, unaided by professional skill, or to death beneath the crushing wheels of flying trains, or maybe to a monotonous expenditure of remaining days in a crowded charitable institution, with no encouragement and no friendliness.

The curdled milk of human kindness, the ex-

haustion of years of physical and mental anguish, of privation, of hunger and thirst, blows, kicks, and abuse, along with a horrible poverty, exact the toll of death or uselessness in life

Attempts to drown these in liquor are the only recourse, which avails but little

As long as poverty exists, so long as starving paupers grovel in the dust behind the wheels of modern civilization, so will we have criminals, bums, tramps, and the migratory hobo. The start is indeed easy, but the end is swift and inevitable

The first wrong step finds the hobo thrust down into the depths of crime, indolence, and depravity, deeper and deeper by the remorseless, holier-and-better-than-thou hand of society and the police, the latter tool for the perpetration of a sin greater than the slaying of millions upon the battle-field

Blames "Cruel Civilization."

The riots in New York City a short time ago were the result of all this in a great way, and the revolts but the upheaval of weakened, starved bodies, and tortured, anguished minds, crushed, beaten, and debased under the remorseless hand of civilization

A little kindness, a little human sympathy, a little of the teachings of Christ applied in the way of human endeavor toward the uplift of the fallen, would do a greater good than all the money spent for Fifth Avenue churches and contributions to missionaries that could be stacked in the bed of the Pacific.

Our modern churches are a mockery, a hypocritical sham, an aid to social position and employment to black-coated parasites with slow, resounding voices, with a strong business sense of getting the money.

Let he who is without sin cast the first stone, and do not condemn a fellow man for the sins of your own doing and the strife for the almighty dollar. The modern church worker has "a coat of many colors" and many moods, which all lead up to "myself first, my money next, and let the other things take care of themselves."

The modern church is but a tool to those in power, the only bond which holds the government together, which keeps the pauper from rising in his might against oppressors; but, notwithstanding, it has a few virtues at the most.

Endeavor, labor, and good intentions, honesty and fair dealing should be recognized; but downright worthlessness of internal origin should be disavowed. Civilization, in a mad rush for power and money, has condemned all, finding it easier to condemn all and turn all from deserving virtues than to discriminate and follow the virtues of Christ, the foundation of what little good does exist in this world

Let him cast the first stone and think of the evil effects of poverty, of greed, the race for the dollar, and the non-existent milk of human kindness

J. F. BRONT

Longmont, Colorado

N. Y. Central Attorney's Figures.

An interesting sidelight on this question comes in a letter from Mr. Frank V. Whiting, general claims attorney of the New York Central lines, in which he takes exception to the statement of Mr. Paine that most of the 5,048 trespassers killed on railroad rights-of-way in 1915 were tramps.

Mr. Whiting recently made a careful investigation of one thousand cases of railway accidents, and found that forty-six per cent of the trespassers killed and injured during the year in question lived near the place of accident, and that this percentage lived at home with family or parents.

President Wilson says:

TO the men who run the railways of the country, whether they be managers or operative employees, let me say that the railways are the arteries of the nation's life, and that upon them rests the immense responsibility of seeing to it that those arteries suffer no obstruction of any kind, no inefficiency nor slackened power.

WITH THE THROTTLE WIDE OPEN.

Huge Earnings and Increased Efficiency Leave Gigantic Surpluses for Dividends, Wages, and Betterments.

Illinois Central has ordered 25,000 tons of tie-plates.

Union Railroad has ordered 500 freight-cars.

Michigan Central is beginning to lay 105-pound rails.

Spanish roads have ordered 2,100 cars from American makers.

Northern Pacific has contracted for 40,000 tons of rails for 1918 delivery.

Canadian trainload has increased from 260 tons in 1907 to 411 tons in 1916.

Canadian Government Railways has ordered 50 locomotives in this country.

Russia has ordered 53 narrow-gage Mallets and 60 decapods from Baldwin.

American Car and Foundry is building 12 armored cars for the War Department.

One railroad is getting $27 a ton for the scrap paper picked up around its premises.

Steam roads of this country are spending $300,000,000 annually for locomotive fuel.

New York Central earned a surplus available for dividends of 17 per cent last year

Southern Railway has awarded contracts for grading on about 70 miles of double-track work between Charlotte, North Carolina, and Mount Zion, South Carolina.

No less than 109,659,088 tons of freight were moved by Canadian railroads last year.

Chicago and North Western is replacing 20 wooden bridges with steel and cement structures.

Pennsylvania will put up a new grain elevator at Canton (Baltimore) to cost $3,500,000.

Freight earnings of United States railroads for 1916 amounted to more than $2,500,000,000.

Pennsylvania Railroad has ordered 68,332 tons of steel rails for delivery in 1918 at $40.80 a ton.

War Department has ordered an armored locomotive from the American Locomotive Company.

I. C. C. has allowed the railroads to file proposals of general freight increases of 15 per cent, effective July 1.

American Locomotive Company is building 10 mountain-type engines for the South African government.

Boston and Albany has made an advance of 5 per cent in the pay of all employees, not subject to the Adamson law, who get less than $150 a month. This

adds about $250,000 a year to the company's pay-roll.

Mississippi and Western is building from Stevens, Mississippi, *via* Seven Springs to Fouke, 12 miles.

Buffalo, Rochester and Pittsburgh is putting $500,000 into improvements at East Salamanca, New York.

Through its efficiency bureau Northern Pacific reduced errors in handling of l.c.l. freight by 41 per cent in 1916.

Central of Georgia has granted to farmers for free summer use 3,775 acres of land and offers 3,200 acres more.

Laborers, including track-repairmen, on the New York, New Haven and Hartford, have received an increase of 10 per cent.

Platte, South Dakota, is to be connected with Pierre by a 125-mile railroad to be known as the South Dakota Short Line.

Chicago, Burlington and Quincy is spending $150,000 on improvements to its terminal facilities at Beardstown, Illinois.

Street railway system of Glasgow, Scotland, has written off its entire capital cost and earns gross revenue of $5,000,000 a year.

Canadian railways earned a gross last year of $6,943 per mile of line, an advance over the next best twelvemonth of $1,327.

United States Steel unexpectedly declared extra dividend of 3 per cent on its common for the first quarter of this year, in addition to the regular common dividend of 1¼ per cent.

After paying 20 per cent dividends, the Delaware, Lackawanna and Western closed its last business year with a surplus of $7,756,000, or more than two and a quarter million more than it had left over in 1915.

Gulf Coast Lines has bought $75,000 worth of property at Beaumont, where the company will build a freight and passenger terminal.

For the first six months of their military service, Norfolk and Western will make up the difference in pay to any employees who enlist.

After paying 8 per cent on its preferred stock and 7 per cent on its common, the Chicago and North Western added $9,270,000 to surplus account

"City of Prineville" is the name of a steam road now being built to connect Prineville, Oregon, with the Oregon Trunk; length, 18½ miles.

Westinghouse Electric is making $2,000,000 worth of electrical equipment for the propulsion of the new superdreadnoughts Colorado and Washington.

The Utah Railway is putting in $75,000 at Provo for a steel water-tank, a four-stall engine-house, a cinder pit, a 200-ton coal-bin, and a 100-foot turntable.

Chicago and Alton has raised the pay of its chief despatchers, assistant despatchers, yardmasters and traveling engineers by sums ranging from $10 to $25 a month.

In the half-year ended December 31, 1916, the Canadian Pacific did within a fraction of one per cent as much freight business as in the entire 12 months ended June 30, 1915.

Council Bluffs, Iowa, can thank the Chicago and North Western for $1,250,000 worth of railroad improvements, including a grain elevator, buildings, and 6½ miles of track.

WORLD'S FASTEST MORSEMAN DIES.

GEORGE W. CONKLING, the fastest telegraph operator in the world, was killed a few weeks ago in an automobile accident near his home at Ridgefield Park, New Jersey. Conkling owned a garage in that town, and with his son, DeWitt, and two other men, was trying out a new car.

Geo. W. Conkling

While rounding a curve the automobile skidded and overturned and Conkling was pinned beneath, while the other three men were thrown clear. The son received a broken leg, but the other occupants escaped serious injury.

The death of George Conkling ends the most brilliant telegraphic career in America, for Mr. Conkling was generally conceded to be the best Morse sender in his generation. In 1898, in a competition in Madison Square Garden, New York, he achieved a speed of 345 words in five minutes, a record which has never been equaled.

It was said of Mr. Conkling that his sending sounded as exact as automatic Wheatstone transmission, retaining also the beautifully rounded individual characteristics of hand-work.

Shortly before his death, this peerless operator was employed in the office of a brokage firm where he had charge of the San Francisco wire of 5,800 miles, the longest telegraph circuit in the world.

Sent 3,000 Words an Hour.

For the last twenty-five years of his life, Mr. Conkling divided his time between newspaper and brokerage offices. One of his greatest feats with a key was while employed by the *New York Sun* in 1908 to wire reporters' stories of the National Democratic Convention. He kept up an average of 3,000 words an hour for several hours.

For many years he was employed by the Laffan News Bureau, the predecessor of The Sun News Bureau. Of late years he had worked in brokerage offices.

Mr. Conkling was forty-five years old. He left a widow and two sons.

The Sunny Side of the Track

ROUNDHOUSE Foreman L. J. Kirby was standing on the station platform the other day when one of those fussy dowagers swooped down upon the peace and calm of the morning, dragging her meek lesser half in her wake.

"Henry," said she, "why *does* this fool railroad have to go and build its depot 'way down here?"

"Perhaps," piped up the martyr conciliatingly, "it's because they want to get it near the railroad."—*M., K. and T. Employees' Magazine*

THE manager of the commercial house was interviewing the applicants for the vacant position. A youth was required to solicit orders.

"Ahem!" he coughed pompously, as the first youth was shown in. "Your name is Brown, I believe?"

"Yes, sir."

"Well, I have looked over your testimonials, and they are very good; your appearance, too, is smart. But there is one question I should like to ask you. I presume you have never got into trouble of any kind?"

"Once sir," replied the youth. "I did a month in jail."

The manager started to his feet. "I'm afraid—" he began; "but wait," he added, "you have been straightforward in telling me. What was your offense?"

"I assaulted a man who wouldn't give me an order, sir," was the laconic response.

"Tom," said the manager to the door-boy, "tell those others outside I'm suited."—*Sample Case*

A HIGHLANDER from Tobermory asked at the Aban Railway Station the price of a ticket to Kilin.

"So much," replied the clerk.

"Hoot awa'," replied Donald; "it's far ower dear. I'd rather walk!" and off he started.

He had not proceeded far when the train came tearing along, whistling as it neared a station.

"Ye needna whistle for me!" said Donald. "I made ye an offer ance, and ye wadna tak' it; sae ye can gang on. I'm no' comin'."—*Canadian Magazine*

HE says that a friend of his called Jones had the misfortune to get in the way of an engine. The friend was taken to a hospital, but his injuries were not serious, so he was immediately removed to the police station, where his assailant was being held. And as soon as Jones got there the engineer started in to impress him with the fact that the blame for the accident was all his.

"You know, Mr. Jones," he said, "you must have been walking very carelessly. I am a very careful engineman. I have been running an engine for seven years."

"You've got nothing on me," said Jones. "I've been walking for thirty-four years."—*Cleveland Plain Dealer.*

A GLUE-FACTORY stands near a certain railway. Its charms are not for the nose, and therefore a lady often carried with her a bottle of lavender salts. One morning an old farmer took the seat beside her. As the train neared the factory, the lady opened her bottle of salts.

Soon the whole car was filled with the horrible odor. The farmer put up with it as long as he could, then shouted, "Madam, would you mind puttin' the cork in that 'ere bottle?"—*New York Tribune.*

THERE is a clergyman in an Ohio city who is very proud of his record as a marrying parson.

"Why, sir," said he to a Cincinnati man, who was visiting him, "I marry about fifty couples a week, right here in this parsonage!"

"Parsonage?" returned the Cincinnati man, "I should call it the Union Depot."—*New York Times.*

SHE took a course of first aid to the injured, and, after long and anxious waiting, the accident she had earnestly wished for took place.

It was a minor railroad-station accident, in which the man had broken his leg. She confiscated the walking-stick of a passer-by and broke it in three pieces for splints; she blushingly took off her underskirt for bandages, and was enthusiastically cheered for so doing by the crowd. When all was completed she summoned a cab and took the patient to the hospital.

"Who bandaged this limb so creditably?" inquired the surgeon.

"I did," she blushingly replied.

"Well, it is most beautifully done," said the surgeon, "but you have, I see, made one little mistake."

She felt terribly self-conscious.

"You have bandaged the wrong leg," he said quietly.—*Baltimore Sun.*

"HIRAM" BOOMERS INTO MEX.

BY CHARLES W. TYLER,

Author of "Hiram on a 'Bachng' Job," "Hiram in a Hold-Up," "Hiram Goes West," "Hiram on Broadway," "Hiram on a Down-Hill Road," "Hiram's Last Run," "Hiram's First Sine," etc.

AN ADVENTURE NOVELETTE COMPLETE.

CHAPTER I.

PRESQUE ISLE ROUGH STUFF.

IT ain't my intention to ever give Jane Opportunity the corner stand; neither do I expect that I shall loaf around in any shady lane waiting for *her* for any extended length of time.

There ain't nothing worse in this world than to get into a rut. If I ever get into one it will be somewheres in the neighborhood of six foot deep, and friends are requested to omit flowers.

A lot of folks will tell you that Hiram is a direct-connected, one-speed bullhead. That may all be, but I won't never get stripped shifting gears—getting my transmission junked because I can't stand high after being run in low all my life.

Ever since I took a job working my passage out of Aroostook firing a salamander in a car of spuds, Presque Isle to Boston—I've been climbing into the ring with old lady Experience's oldest boy, and getting a whale of a trimming, and then limping out all bunged to blazes.

Sometimes when a square peg gets into a round hole tight enough it takes a lot of hard knocks to get it out again.

That's me — *Hiram* — from the Aroostook potater belt.

When I come South I knew it all—like Brown's bull calf, that thought it was the ablest thing that ever was attached to the end of a rope.

I started with the wrong idea altogether. I begun gorming into things I didn't know any more about than I did of the Chinese language. I *thought* I knew more than half the wise guys. Young feller, if you live through that stage you're a pretty good betting proposition.

In something like ten hours after I landed my first job on a railroad—I was a boomer. I am yet.

Listen!

I have railroaded on the B. & M. and the Pennsy and the C. N. W. and the Santy Fee, and I have pounded brass for the Western Union at the one-time "109," Boston, and the old stand at "195," Broadway, and on Cherry Street, out in Seattle and Third Street, in Oregon's "Rose City," and "bached" it in the desert wilds of Utah and New Mex.

Budding genius was what I started out with, but it was a secret. There wasn't anybody in on it but myself.

And the nearest any one come to discovering what ailed me was a cold-blooded, bald-headed nimrod or something at "195," and he tried to cure me. He got a fourteen-inch monkey wrench, and I got a four-foot start, and we run a race, and I beat him.

I had seven or eight other escapes; then I says I guessed I'd go abroad.

I looked around for some far shore where there was plenty of romance and ladies with dreamy eyes, and dark, dank plots and revolutions and chests of gold down cellar behind the coal-bin; and the

nearest foreign land that answered to this description I could learn much about was little old Mex.

So I climbed aboard a south-bound string of varnished wagons one day at Alb'kerky—and was on the last lap. Yes, and speaking about laps—Susie Destiny come so near getting me into Father Abraham's *lap* within the next twenty-four hours that I don't know if I am ever going to be the same again. I may get to look all right, but mentally—I don't know.

We rolled into El Paso about dusk, and right off things begun to happen.

I asked a tall, dark guy would he tell me how to go to get across to *Jewraz*. He looked me over; then laughed and says he guessed I was something of a stranger in them parts.

I says there was no call to strain his intellect like that; I was a stranger and I knew darn well I was. But that wasn't answering me what I had asked him.

Then he grinned sort of nasty-nice and says by any chance did the *gringo* get his wires crossed, and was it not possibly *H'rah-eth* the *sanor* wanted to go? Yes?

"What do you mean, gringo?" I says, right off prompt.

Whereat the gent flapped his lunch-hooks and started talking in Chinese or Polock or something, and tried to tell me where I come from.

"You're a *liar!*" I says. "And your father's a liar and your uncle and your whole danged family! I come from Maine!"

"Ly-er?" says he, soft like a high wind—and begun searching among his raiment like he aimed to introduce a toad-stabber into the argument pretty soon.

Now no tall, dark guy can start any business like that and expect me to remain friendly toward him.

I put up my dukes and opened the activities by making a couple or swings at his jaw, which same pulled his guard high enough so's I could slam one of my cowhide brogans into the pit of his lunch-locker.

Whoosh!

Say, the wind went out of him like he was a busted train-pipe.

A little cock-eyed feller pulled that trick on me down in Presque Isle once when him and I got into a slight altercation as to who had the right-of-way. It was an awful wallop, but it was worth the price of admission all right.

And that's the way it goes. You have to get into grief to learn how is the best way out. You've got to get into a scrap once in a while to keep posted who is the best man out your way, and just about where you do get off anyhow.

Ain't that it?

Another thing I have noticed—it is the guy with the softest pedal on his tongue that packs the stiffest punch a lot of times.

CHAPTER II.

MEET MY FRIEND, BOSTON MICKY.

I HADN'T been in Mex a day and a half before I begun meeting guys from home.

Say, you'll find Yankees in every blooming land on the map and in a lot of places that is marked "Unexplored." And wherever you run across this son of Uncle Samuel he will be engineering or railroading or taking moving pictures or trading or fighting or kinging or *something*. But you can bet your shirt that he will be getting action of some kind for his money.

Ye'sir! It comes natural to him—like cheating in a hoss-trade.

All the Yanks I met in Mex was mostly in the war zone—wherever that happened to be. They was mixed up in the scrap on one side or the other, and they was all happy.

Some of 'em was running machine guns and some air-ships and some automobiles and some railroading. Everybody was having a plumb lovely time.

Maybe it was at a afternoon social Mr.

Fidazzo was conducting or merely dropping home-made bombs and otherwise swapping wallops over at a little pink tea which was being run off under the auspices of a General Honduras.

I had just blowed into a burg that had the darndest name that was ever foisted on to a unsuspecting wayfarer, when one of the gang who's loafing around in the shade hollers:

"Hey, there, bo! How's the folks up in God's country?"

I looked, and it was one of them Yankee boomers I was telling about. And an old railroad boomer at that. Michael Donahue was his name, but he says that Boston Micky is the handle that fits him down there.

We was glad to know each other, and he rolled a cigarette, and we took a walk. Here we met another lanky tribute from the home of the brave. His *nome de plum* was Baldy Sours. It fitted him fine.

"It's too bad," says Micky, "that there ain't a couple more of us guys here in"—and he said the long name I can't spell or pronounce either—"and we could run a revolution of our own and capture a town and cal' it Roxbury Crossing. I'm plumb tired o fighting at day's wages. Huh, Baldy?"

"What!" I says. "Do you fellers get paid for running them machine gats?"

"You bet your sweet life!" says Micky, lappin' together another of them tissue pipes. "You didn't think we was doing it for love of their untidy, dried-up old country, did yuh? Five bucks gold is the daily stipend. Want to mark up?"

"Sure!" I says. "I've done things pretty near as bad, since I left Aroostook. I'll take a crack at war with you—for a while."

And so we went and saw General Honduras.

I didn't like the gen's looks very good at all. And when he says to four or five tough mugs in the gosh-darndest sommebrayos I ever saw to take a pale-looking guy out and shoot him because he wa'n't no good anyhow, why, right off I knew me and Mr. Honduras wa'n't never going to get on what you might call real intimate terms.

He looked me over deliberate; then he says:

"What can you do, *hombre?*"

And I told him—told him how I could telegraft and railroad and run a gasoline engine. Oh, yes—and could fight.

He thought a minute; then he says could I run a flying-machine.

And like a darn jackass, I says I could. And right there was where I foozled the hash.

"Fine!" he says, grinning. "*Gran Americano!*" And he told Micky to fix me up till he sent for me.

Then we went out behind a mud shed in the shade, and Micky introduced me to Sarah, who was his pet machine-gun, and put me through the sprouts concerning how they articulate, because he said as how we was due for a little action along about daylight, to-morrer morning, probably.

"You stick around when the entertainment commences," says Micky, "and I'll let you be my gun squad. I'm shorthanded. In the States the reg'lar army has four guys to do the stunt, but down here there is a good deal of the time when everybody is his own pointer, number one, two and three man—all wearing the same pair of pants."

By gorry! I don't know about this war business! It may be all right in the movies, and fine dope for the Sunday papers, and make interesting reading in the histories; but when it comes right down to mingling in these festivities personally—I don't know.

There ain't no satisfaction that I can see in bein' a defunct hero. And down in Mex you ain't that.

When them little *pinging* sounds starts singing by, and when you see dust-clouds spurting up thereabouts, and when you see a guy next to you set down his gun and look kind of perplexed and grab hisself in the bowels or somewheres and then kind of slump over, why, then is when

there comes longings of a Aroostook nature.

Something like indigestion creates a sort of vacuum in your stomach and a tickling feeling gets into your feet that makes 'em want to head north and be a lot of use to you while the going is good.

Ain't that it?

I was kind of worried when I went to crawl into the hay at this dump where I was rooming. Still, to-morrer was another day entirely, and why should I lay awake wondering how it would feel to get shot in the zodiac or somewheres, when probably I might not get hit at all? I felt sure I wouldn't if I could help it.

And then I got to thinking of some pictures I'd seen in the *Illustrated London News* of a charge somewheres over in Europe. And I hoped that I wa'n't going to be asked to participate in no jamboree that had bay'nets on tap.

Somehow, I never could work up any enthusiasm concerning the idea of having my person jabbed at indiscriminate by a cold, clammy piece of this here war cutlery.

I've been shot in the foot by a revolver in the hands of myself, when I was trying to extinguish a cat, and I've been clubbed over the bean by an angry gentleman who didn't think favorably of me, and I was pretty near reduced to a state of deceased remnants when that freight hog let go her crown-sheet up on Shelbourne Hill.

Just the same, before I ever allow any stranger to go monkeying with my being with one of these bay'net implements he will have to be moving considerably faster than a walk, I tell you those.

Anyhow, as I said, I decided it wa'n't going to be any use to borrow trouble about what might be coming off to morrer. And there wa'n't. It come about one o'clock that forenoon.

General Lumbago had come up in the night. It was an awful surprise to everybody.

Who ever heard of a Mex army prowlin' around after dark? It ain't done! The Feds had pulled a rotten breach of etiquette. It showed a lack of breeding or something.

But that wa'n't the question.

What was the chances of me making a early start for the United States border? They wa'n't all that might be desired, but they was better than nothing, with the gratifying result that after several bullets come batting through the walls where I was I begun running about five seconds and one-fifth before I ever set foot on the floor.

I passed out of the place where Hiram had been hitting the pad and skidded around three or four corners on one wheel and started up Main Street just nineteen revolutions faster than perpetual motion on a drunk.

I wa'n't scared or nothing like that, but there was a lot of things that I'd thought of that had ought to be attended to right off. And I didn't aim to defer looking after them long.

If you should ask me, I would say that somebody had took the lid off Hades and things had slopped over on to this blooming little mud town with the long name. Some of Mr. Honduras's army was coming and going real enthusiastic. Some had took unto themselves a cartridge belt and a gun and that was about all, and some more hadn't been to bed yet, I guess, because they was all right and would have got by anywheres.

Everybody was hollering and shooting all in more than fifty-seven directions at once. It wa'n't no place for a minister's son—or nobody else, if they was a little bit solicitous concerning the state of their health.

I overtook everybody who was going my way, and before I knew it I was traveling on a section of Main Street that had sort of been set aside by mutual consent.

Then all of a sudden somebody put a shot under a building just ahead of where I was going, and the shack shivered and slumped around on one corner and burst out afire all over. It lighted up everything for quite a piece—including myself.

And right off some of General Lumbago's Feds, who was coming up the line, started shooting at my mother's son.

I plugged into a doorway on my left like the Cannon-Ball Freight coming into Pawtucket. There was something in the blessed shadow which I went into all over, with the result that I got cussed at so fluent in United States that it sounded real homelike. Right off I knew I was all right.

It was Micky.

"Well, Aroostook, you danged, long-legged old kangaroo!" he says. "I see you're still in Mex."

"Yes," I says; "but I wouldn't 'a' been if I could got about ten seconds quicker start!"

Micky laughed hearty at this, and says he knew how it was, but that I'd get used to the smell of powder after the fighting got warmed up in good shape—that I'd forget all about everything but wanting to make 'em lay dead.

"It ain't the powder," I says, "but them bullets sound too darn much like m'skeeters—an', Glory Halleluya, if one of 'em ever lit!"

"Aw, don't let 'em get your nanny, old-timer," says Micky, patting me on the arm. "These lads can't hit nothing at over twenty yards!

"You stick right here with your Uncle Dudley and serve ammunition and water. When Lumbago's doughboys get up opposite that adobe shack this side of the *capilla* watch me 'n' Sarah make 'em wilt.

"Oh, man, but won't we take the fight out of their old yeller bellies! Yea, *bo!* Watch 'em fade when I step on 'er tail! Here they come!

"Don't lose your nut! Keep an eye on them belts—see that the cartridges are all even. Got them ammunition boxes there all right—latch toward the piece? That's it; set 'em right in line with the feed-box when you shift! And the water—like I showed yuh."

And straddlin' the "trail" there behind his little bob-tailed cannon, he waited—blowing cigarette-smoke through his nose and humming the words of this "Kelly" opera, while I shivered some more and crammed bullets into web belts and wondered if the last pledge I'd signed would bias old Saint Peter any.

And up South Main Street, or what ever street it was, come Mr. Lumbago's constituents.

They was giving their college yell and shedding long-live-the-king stuff in Mex and uncorking gunfire in large and promiscuous quantities, which same hulabaloo didn't appear to impress Mr. Donahue a little bit. He merely straightened out a couple of belts, monkeyed with one of the sights, squinted through it business-like; then continues his efforts in connection with Mr. Kelly:

"Sure I'll knock th' *l* out o' Kelly,
'N' he'll knock th' *l* out o' me! . . ."

What little opposition Mr. Honduras's noble followers had instituted to date hadn't seemed to amount to much — not enough anyhow to at all fog the enthusiasm of the patriots who was at the present moment shimmering up Main Street. The gen hadn't got all organized yet or something

Micky was just swinging back to the first line of the chorus when the Fed advance guard arrived opposite the mud house where he had promised 'em, so as to speak, he'd start leaning on the gat.

CHAPTER III.

SARAH SPEAKS HER PIECE.

UNCLE NOAH says in part concerncerning the word "awe," that it is the emotion inspired by something dreadful.

Well, that was what I had *awe!*

I begun counting the enemy, and there was between one and seven million of 'em. They was trickling up through that narrer way like the Sasinaw boils when she hits Spindle Rocks in Hell Gate. And they seemed determined as all creation.

I flattened back against the wall there

in the shadow and thought of lots of pleasant things—and others. I felt like once when a guy was going to wallop me in the eye, and I *knew* that he was going to wallop me in the eye.

That's the worst of things like that—dreading 'em. Just as soon as this thug cracked me in the peeper, why, everything was all right and we had a lovely time.

It was the waiting part now that was the worst for me, while Mr. Michael Donahue, still struggling with "Kelly," twisted the end of another of them brown-paper pipes together, then ducked down behind the shield and lit it.

Says he, after an inhale:

"Sure but I *will* knock th' *l* out o' Kelly! . . ."

Lumbago's hordes was so close you could hear the rustle and skuff of 'em between the crackle of the guns.

"*Out—o'* Kelly! . . ."

And Boston Micky went to work.

He grabbed hold of the handle-block, jabbed his thumbs up against the trigger and widened on 'er something lovely, while Sarah begun jabbering to the tune of somewheres around six hundred a minute.

Once in a while she'd jam for a second, and we'd clear it; then away she'd go again with her brisk little *r-r-r-r-raty-tat-tat!*

And in something like about a minute and thirty seconds after Mr. Donahue begun pinching Sarah's tail, Main Street was kalsomined with one layer of non-combatants.

Michael sprayed lead into 'em till there wa'n't nothing but stragglers. Them lads went over like the tin soldiers in a kiddie's army when the nursery rough-house starts. There was simply nothing to it.

I pulled a *E-yah!* like Hughey Jennings when the bases are full and Ty Cobb comes to bat.

"A-atta boy!" I yells. "Hurrah for Ireland!"

And I started to come out and do a clog or something But Micky grabbed me.

"Here-e! You danged Aroostook Indian!" he says. "Come away from that before somebody pots yeh. Them lads will be back in a minute, only they'll probably be a little gosh-blasted more respectful this trip. They won't come surging up with no more of that close-formation stuff for us to work on to-night, I'm thinking.

"Hah! See! I told yuh!"

It didn't take Lumbago's soldiers long to savvy where the heaviest fire is comin' from. Accordingly they drew back and covered up, then started pegging away at where we was—slow and sincere—like it was their intention to put the kibosh on me and Micky if it took all summer.

Micky didn't think much of this proceeding, and he said so, right off the bat.

"Where in thunder is Honduras and his danged army all this time, I'd like to know?" he squawks. "Have the yeller hounds got cold feet and left us to hold the town or cover up their retreat or something? Bah! They're a hot bunch!"

Then after a minute or two a grim little sort of smile come over his face, and he looked at me and says:

"Aroostook, old scout, I guess probably you an' me have got to stick it out here for a while. That's how it looks just now. Somebody's spilled the beans sure as cat."

And he stood up for a minute to get a better look up beyond the building that's burning, where there is something seems to be going on.

"Well, anyhow, it's all a part of th'—"

And the next second he has slumped over on top of me.

"They've got me!" he says, as matter of fact as if he was remarking that it looked like it was going to be colder.

I tried to see where he was hit and fix him up, but he shook his head.

"No; don't mind me! Sit in, old timer—keep 'er talkin'! Give 'em *single* shots for a while! You know—once forward with the roller handle, 'n' twice f'r *continuous* fire. Don't let 'em savvy that

they got one home! And remember what I told yeh!

"An' say—don't let the stiffs worm to close. They'll try it. Hold 'em—"

"*Hold 'em!* Is that all?" I says. "Why, by the great pigeon-toed sons of Piute Nellie I'm going down there in about five minutes and kick their blooming pants off! So help me!

"Don't you worry, Micky, we're goin' to knock the everlasting daylights out of 'em. I've had folks in every war since Ticonderoga fell into the hands of Ethan Allen and the Great Jehovah."

And I clim into action with Sarah—a one-man Yankee gun-squad!

CHAPTER IV.

MICKY "GOES WEST."

OLD-TIMER, I don't know if you was ever there or not, but there ain't no thrill in the world like comes to you in one of them red-rimmed, give-and-take, stand-'em-up-and-knock-'em-down scraps where you haul off and clout 'em with anything under the sun you can lay a hand to.

Yes sir-r! Your blood is two-thirds buttermilk if you ain't a ring-tailed fighting-man after you've been shot at for a few minutes—and more especially when you can't just make out where it is coming from.

It is aggravating as the old scratch, when they begin taking a personal interest in just *you*—as one of them war reporters said. Believe me—I know what it makes you feel like. Uh-*huh!*

I forgot all about dying and started to talking to myself about friend Mex in general and them wall-eyed heathen over there back of the church in particular, and was plugging away at 'em whenever it looked like I might smear a couple, or, maybe, make 'em duck like blazes anyhow.

And when it appeared that they was going to start a little something extra, take it from Hiram there was one sweet ring of death radiating thereabouts! I'll bet they thought there was seventeen machine-gun corps holding forth in this here doorway.

"But they wouldn't come up and be shot for a nickel. They was as bashful as a corn-fed Presque Isle Rose.

I had been squaring off as a first-line army man for about fifteen minutes and was just drawing a new belt on to the feed-pawls, when I heard Micky muttering kind of gaspy; then out of the corner of my eye I seen him cross hisself, there in a heap in the shadder.

Gosh, but he was one game boy!

He tried to say something and choked, and I bent down and got hold of one of his hands and kind of patted it—just to let him know that I was there, and so on. His lips moved, and I listened.

"A—Aroostook, if yeh ever get back t' God's country, give 'em my regards—th' folks up there. I feel like a blasted wet rag. I ain't got guts f'r nothing, somehow. I—I guess Micky is going to call it a day—old-timer."

I give 'im a drink of the muddy warm water we had there, and after a little he went on:

"Aw, but say—old man, if—if it's dyin' I am, sure it ain't hard. After all, it's a grand old way to—to go out—like a man. But—but—I wisht it was f'r—f'r Uncle Sam—th' Stars an' Stripes—in—instead of these lads below th' border!"

And Boston Micky was on his last boomer journey.

When I seen how poor Micky took it—with a smile, and just as a part of life's old game, why, I says to myself:

"What's the use?"

I was kind of seeing red—a salty sort of red—and plumb sick of shooting around a corner.

There come a little lull in the festivities, and I dragged Sarah out into the middle of Main Street, and set her up; then went back and got some nourishment for 'er.

And we was ready for some action around there.

"Come on!" I hollered, beckoning at

'em, swinging both arms inviting. "Come to papa! Come forth, you heathen pugwallopuses and let's see what you've got. I'll bet ten cents against a plug hat that there ain't enough of you south of Bangor to even lick a couple Yankees!

"And I know darn well there ain't enough of you between Happy Day and 'Sandy Point' to lick *one*—when he's mad!"

Micky was right; them guys couldn't hit nothing. They come out and shot all around me, but I buckled down behind the mud-guard and stepped on 'em something lovely to behold—and thumbed my nose at 'em when they quit.

And I was having troubles of my own, too.

Machine guns is ungainly little cusses. And what with the hurry of getting Sarah's tripod squared up and firm, and looking after the ammunition boxes, and some of the belts I'd loaded last being more or less uneven, which made 'er jam, why, there was times when we would have been an awful rotten betting proposition

Then, too, I hadn't been able to give 'er a drink lately, and the old gat was so hot I guess there must have been about two hundred pounds of fog in her if she had had a gage. Just the same, me and Sarah done some awful good teamwork. When the boys come looking for fight we always managed somehow to entertain 'em their money's worth.

And I wa'n't wearin' a horseshoe or nothing. But they didn't get me. I guess there ain't no other way to explain it except that my time hadn't come yet. Ain't that it?

Then all to once the attacking party got inspired to try a new stunt—something their asinine brains hadn't been able to grasp before.

They started a flank movement—closing in from South Main Street and a place that I guess was Railroad Avenue, concerter.

The thing was not a success, however. The rear action was just gettin' under way in good shape, when I heard the *r-r-r-r-raty-tat-tat!* of another machine-gun down toward the railroad station, giving 'em a good old Yankee baptism for the peace of their souls.

It was Baldy Sours.

About twenty minutes later Gen Honduras's infantry got their dander up and got mad and come out of their hole or wherever they was, and the battle was brought to a happy conclusion.

I looked my person over and seemed to be free of punctures and in pretty fair working order, so I went to tell Baldy about how Mick had went "west" over the Long Road.

There ain't much more to tell right here.

They buried Boston Micky in the old Catholic cemetery back of the bullet-marked church with the bit of a tilted cross on it, in this little town with a long name, out there in Mexico — a Yankee wanderer — a old railroad boomer—whose last thoughts was of the U. S. A. and the folks back in God's country.

CHAPTER V.

A NEW HITCH FOR HIRAM.

THE afternoon follering the debate on South Main Street Mr. Honduras sent for me.

He sent two of the guys with the big sommebrayos who took the pale-looking gent out to be erased. They was heeled something magnificent to behold — these he-chapyrones.

It looked like they was expecting to do quite a lot of shooting in the near future, which was a interesting fact that I begun to cogitate a whole lot earnestly.

The gen wa'n't feeling very good about something or other when I arrived, and my illuminating presence didn't appear to soothe him any.

Old-timer, listen!

Talking to the gen like a father to a son was that tall, dark lizard I kicked in the breakfast wagon up to El Paso.

"Hiram!" I says to myself. "Bull luck and long legs has got you out of a lot of scrapes since you started boomering, but right here is where you are going to need both luck and legs—and a lot of prayers."

When I was a kid back on the farm, beginning to earn my board, one of the first chores I remember was feeding old Jen and cleaning out her stall.

Just let that mare savvy a little bit that you was *afraid* of her and she'd lay her ears back and whinny and start making all-fired valiant efforts to deface you permanently. But if you walked up and hollered, "Ho-o-a, there, you danged old donkey"—and so on, without showin' yeller, why, that wise old she-sinner would droop all over till she was so meek that she would have made the dove of peace look like a bald eagle.

And what goes for a horse goes for a man—sometimes.

I looked the tall dark gent up and down, cold and distant, like he was a new piece of furniture; then addressed my remarks to Mr. Honduras.

"How are you, cap!" I says, bold and familiar, the same as I would have to old Jen.

But he scowled black as a thunderhead and laid back his ears, so as to speak, and said nothing.

At this juncture the El Paso Piute, who I understand was one of Mr. Honduras's agents that had been up to Texas and around trying to get some Yanks to come over and run flying-machines for the Rebs, and hadn't had any luck, butts in.

"Take off your hat!" he says.

And one of the Swedes with me did!

After the gen got all done looking me over—sort of estimating my measurements, I thought—he says:

"So-o you can run a flying-machine, eh, *hombre?*"

Then I remembered what I'd told him yesterday. Great Ned!

There are lots of folks in this world who has put their foot in the porridge because they didn't hold their mouth right—because the thing come open and their tongue clacked. There ain't only a red-hair's difference between a blow-hard and a liar. So if some gent calls your bluff when you ain't expecting it, don't feel sore at nobody but yourself. You started it.

Could *I* run a air-ship? Ye gods!

"Well," I says, sort of prudent for me, "I can run *one* kind."

"Yes?" says the general, like he was entertaining some doubts thereof and getting blacker and more sullen-looking all the time. "Yes-s? And what is the kind the *gringo* can fly best?"

"A balloon!" I says.

Oh, Alice, but didn't the gen get ripe mad! He walloped the arm of his chair so hard that he bent the wood and gritted his teeth and ascended way up out of sight in a bright blue brimstone nimbus, and was gone about five minutes.

When he had got the worst of it all out of his system and could breathe again without cursing, he says *I* will take one of them two flying-machines that is down to the station by the railroad and *fly* the lam-basted thing!—that I'll go *up* and go *out* and see where Lumbago's dun-hooted main army corps is at and what they are doing, *or-r* it will give him great pleasure to have me took out and *shot*—after supper!

What do you know!

"By the bob-tailed hordes of Moses!" I yells. "That's one dang, gosh-awful way to go and treat a gentleman who's been out here on Third Avenue and Fourteenth Street half the night putting the kind of pep into the scrap that the Green Mountain boys put into the Revolutionary War! Why, if it hadn't been for me and Boston Micky and Baldy Sours your old rebellion would have been knocked into a cocked hat by now! What's the matter? Ain't you got no sense of gratitude or humor or anything?"

"Bah!" he says, snapping his fingers. "It was nothing. Besides, I shoot my generals when they displease me!"

"Holy mackerel!" I breathes

It's one thing to get into a fight and get shot at—and it's something else to have to set back and have it to look forward to four or five hours, and with a couple of the cutthroats who are going to assist at the ceremony standing around eying your wearin' apparel.

"Ain't there no way we can arbitrate this thing, cap?" I says. "You see, I'm all out of practise when it comes right down to pulling the latch on these flying-buzzards at a minute's notice. The last one I tackled was up on Shelburne Hill when a freight-hog's crown-sheet come off.

"Now, why don't you give me a couple days to hang around and look the mill over and get 'er limbered up and greased and everything? Then probably I could go out and squirt circles all around the place. I'm a corker when I get started, I am."

But here the other slug whispered something to the gen, and it was all off.

"Say!" I hollers at the tall, dark moth. "What are you tryin' to do—queer me? Or are you looking for another fight? I licked the stuffing out of you in Texas, and if you'll come outside a couple minutes I'll lick you in Mex, you an' your gang. I'll box you with anything from paving-bricks to two-bitted wood axes. I'd die happy just to be alone with you for one minute and ten seconds!"

I begun edging up a little, hoping I might be able to clam the guy one for luck right there, but here Honduras says:

"Take away the *gringo* fat-head!"

With the light-horse brigade on my left and the heavy artillery clanking along on my right we ebbed gaily forth.

When Baldy Sours seen me coming up Forty-Second Street with the pall-bearers, he come up and says:

"What's the trouble, Aroostook?"

"Oh, nothing — much," I told him; "only the human tadpole in yonder has got it doped out that I either showfer a flying-machine for this afternoon or else I am selected to play the principal part in a sort of by-by-Hiram scene after the evening meal is over and the dishes is done."

"Can yeh make it, old head?" says Baldy, looking kind of concerned. "Can yeh fly?"

"Well," I says, "I don't know — yet! But I can run a gasoline engine and telegraft and make a freight-hog sit up and take notice; therefore we are probably going to make something of a start all right. And if I can't do a good imitation of Glen Curtis it won't be because I didn't take a awful wallop at it. I wa'n't in Boston Micky's Yankee gun-squad and not learn how a U. S. boomer can trod up to the gates of Kingdom Come with his boots on.

"So here goes nothing! I either get the hitch out of town — or Father Abraham takes Hiram to his bosom a trying! Man, there is going to be one awful turmoil in this hamlet in the next three or four hours!"

And there was!

CHAPTER VI.

SOME REMARKS ON EDUCATION.

EVER since I discovered the difference between the right and the wrong side of a cow—back in them dear old Aroostook boyhood days—everything I have ever learned I tried first and was educated afterwards.

Hiram, senior, always "allowed" that was as good a way as any, and better than some, because there wouldn't have to be so much reviewing.

When it come time that I should learn to swim he took me out to the creek and threw me in.

"Swim, son!" he says. "That's the way I learned."

And I swum.

When I started milking, he give me a pail and a three-legged stool and says:

"Go to it, boy! Try the old King cow."

We had bought 'er from a farmer named King, who was an old crab, and so was his cow.

I approached her from the left and sneaked on to the stool, got the pail be-

tween my legs, said, "So, boss!" and took hold of one of her teats — sayin', "So, boss, so, boss!" all the time. But she didn't "so" for a cent. She backfired and knocked me about ten feet but I knew which side *not* to try to milk a cow on.

That was the way dad used to teach me things. But he was a good old pal. Most of 'em are if you give them a little chance, and ain't ashamed of their clothes and the way they talk and their old-fashioned ideas.

Son, don't never be ashamed of your dad or your ma no matter how swell *you've* got to be. There won't ever be anybody else who will love you, good or bad, through thick and thin, like they will —unless, maybe it's the right kind of a wife.

My dad is gone now. His son, though, is on the job, and has been doing a lot of milking since the old King cow died, so as to speak — on the left-hand side, since them days back home. Only different kind of cows.

You know what I mean.

As I grew up I was forever hanging around watching somebody else doing something. After I'd watched a while I'd say:

"I'll bet *I* could do that."

Later on I tried some of 'em— Well, I've lived through it, but that's about all. Most of 'em backfired

Once, here a while ago, between the time when a angry hogger on the Boston and Maine run me all over the East Fitchburg Yard with a lead hammer, trying to connect with my person some place, because I pretty near took a leg off him with his own freight-hog, and that time when old "AB" at "109" State Street found out how much I *didn't* know about telegraftin'—between them two stunts I went down to a place that they called the Saugus Navy Yard or something on the Lynn Marshes, and tried to get a job as eagle eye on a airship.

But there wa'n't no jobs open, and the feller said there wouldn't be either, probably till after the World's Fair in Jersey City.

Anyhow, I hung around the rest of the day and watched how flying-machines was flew till I thought I knew pretty near as much about 'em as the Wright brothers; then went and saw "AB."

So when old Honduras says could I run a air-ship, why, I just took a chance that he wouldn't never really want me to run one and said yes.

Now you know which side of the cow I'm on -down here in Mex.

Baldy Sours come along down to the station with me and the National Guard —also about two-thirds of the Reb army and their cousins and their aunts and their sisters and the whole danged population to boot.

I guess the gen must have passed the word and gave everybody the afternoon off to come out and see the fun. Inside of thirty minutes it looked like the fourth of July around there.

And *Hiram*, a United States boomer from Aroostook County, was the big-time attraction!

"Baldy," I says, "it looks like there was either going to be a successful aviation meet -or a big funeral."

"Oh, don't mind them," Baldy says, trying to cheer me up. "They come out for any old thing — just like a crowd would line up to see a guy put a new tire on his machine on Broadway."

"Do the women folks come out when a guy gets extinguished, too?" I says.

"Sure!" says Baldy. "A lot of 'em do, just the same."

"Well, I'm a son-of-a-gun!" I says.

Then I looked 'em over. Some of 'em wa'n't bad lookers either — but the thought of having the female element getting fun out of seeing me trod up Death Valley, like they was a lot of old squaws, got me madder than Sam Hill—and I swore and says to Hades with 'em, we'd see who to hang laughed!

And we did!

"How'd they come to get hold of these

here aviation locomotives, Baldy?" I says, starting to walk around the thing reflective and studious-like.

"Well, you see," says Baldy, "Honduras had a guy named Barsto, a Yank, who brought 'em with him and flew them. But Barsto got lit up on *mescal*, like the State House dome, one night and run amuck.

"There was no argument; the next morning he got his, that was all. But there has been no flights since. I guess they've been trying pretty hard to land some flyers.

"As far as the machines go, though, I shouldn't wonder if they are O.K. This Barsto kept them in good shape all right, but if you don't know anything about flying—*good night!*"

I was still looking over one of these sky animals—seeking out its Johnson-bars and ET valve and "joker" and sand pipes and so on, just to kind of have these little details fixed in my mind in good shape before we begun starting out of town with the drag.

I'll explain the instrument.

There was a couple dinguses that might have been reverse levers, or might not; there was four sick little rubber-tired ponies; a set of main drivers coupled up with chains run mostly in tubes; there was a couple skids, which I made mental note we would probably need on the corners; there was a tail with some doflappers something like a sculpin has, and a radiator and a tank and a engine. Altogether she looked like a cross between a Pennsy gondola and a span of a railroad bridge.

But as near as I could make out it was about the same style as the outfit the fellers were using up to the Saugus Navy Yard.

Oh, yes—and there was a seat, a couple of 'em.

"H-m!" I says. "And who's goin' to fire the job?"

"Goin' to *what?*" says Baldy.

"Fire the mill—be the second man in the hut," says I, pointin' at the extra seat. "In land railroading there always has to be a hogger and a smoke in 'er shanty."

"Oh-h!" grins Baldy. "That's for the observer. You see, *you* will be the pilot—"

"Yes," I says, "and Heaven help the ship!"

Baldy goes on:

"The pilot runs the machine, while the observer makes notes and keeps an eye out for the enemy and so forth. When you have located the Fed army, fly over them so the other guy can drop bombs into 'em."

"*Where,*" I says, "do these bumbs come from?"

"Why, you have them with you, of course!" says Baldy.

"Oh, *do we?*" I says. "Well, now, that's news to me, but just the same, if you should ask me, I don't believe we'll have any with us *this* time. No-thing *doin'* on the bumbs!"

And then I thought of somethin'.

"Who," I says, "is the guy who goes up and does the piking off—the observation conductor?"

"Franco," says Baldy, "the tall dark guy you saw talking to the general."

"Julius Cæsar! That tall, dark bullet again! Oh, Abie! Quick, Baldy!" I says. "If you're my friend, go tell the gen I was only kidding. Tell him I'm the original flying kid! Tell him I'm a dream come true—anything! Only be sure to tell 'im that Atwood never had nothing on me.

"And—listen—tell him I am ready. The hearse awaits! Bring on the travelin' hogger—that tall, dark polecat! Get it? Two by two! That bull pup queered me, so we'll start this journey together—him and his bumbs! We'll make it a double-breasted funeral!"

"Good Lord, man!" says Baldy. "Do you mean it?"

"I do!" I says. "If they want some action around here, and some gore and so on, why, far be it from me to disappoint 'em!"

Baldy shook his head and swore like a pirate, and started off after Frank.

I took off my hat and coat and rolled up my sleeves and turned up my pants and spit on my hands and begun looking for the starting-dinguses on the engine.

The battle squadron stood around and looked on, while I fingered and tinkered and fussed and got organized so that there wouldn't be nothing to delay us when we got the block

"John," I says to one of the infantry, "when we get all ready, I want you should take one of them fan-tail do-flickers back there and start turning it"

"*No hablo Americano*," says the centurion

"Sure," I says, "*Commes'vou* yourself!"

But no, he insists: "*No hablo Americano*."

"What do you mean by that kind of talk?" I says.

And he shook his head and held out his palms so that I could see that there wa'n't nothing up his sleeve. And then I got it. He couldn't understand me.

"No savvy, eh, you big stiff?" I says. "Well, watch my hands. Look-it—bime-by."

And I pointed at one of the whiz-wheels on behind and made motions, swingin' my arm like a Dutch windmill.

"Bime-by *whoosher* mucho thusly—and I hope to hang it back-fires and knocks your block off. Now do you savvy, you maverick?"

He nodded his head kind of doubtful, and I took it that he was quite a lot acquainted with what was his offering to the afternoon's entertainment.

Baldy hadn't got back yet, so I took a look around.

Great-e gods and little fishes—what a gay and festive audience we had with us! All hoping to glory the *Americano* would get his good and proper. I fitted fine with that bunch—like a umpire in the bush leagues.

There was Mex ladies all up and down Railroad Avenue and Main Street and in back yards and on the roofs and every place. The male population was festooned all over the freight-car roofs and the freight-shed platform and crowded around the machine I had picked out to fly with thicker than a run of shad.

I climbed up on to the front of the machine and looked 'em over. Then I thought probably I should ought to ballyhoo the act a little maybe, before the performance commenced, and while Baldy was digging up Frank. Just say a couple fitting words, as old Gus Doolittle used to say in prayer-meeting after he had been sampling some hard cider.

"Ladies and gents!" I says. "I will introduce myself by saying that I am a flying-ship hogger. There may be a few better engineers than I am but there ain't none any worse."

That got by 'em all right, so I went on:

"I am about to sashshay forth in a little free-for-all activity that will be remembered to your dying day."

And I looked at the Swede who was going to turn the wheel to start 'er.

"Some of the whirligigs and do-flops which we will probably uncork—if you are able to foller 'em at all—may seem a trifle difficult, but I assure they are not; they are very simple. And at all times I hope you will refrain from applause."

There was quite a lot of hollering at this point and some *gran Americano* stuff in a few odd lots.

"Thanks!" I says. "But please keep the rest for the finale—with the flowers."

I was getting kind of nervous about what was taking Baldy so blooming long, but I had to do something to keep the darn fools from losing interest and straying off, so I give 'em some more of the same.

"And as I started out to say, I have flew all manner of hot-air machines in the past twenty-seven years—I have flew 'em from the rock-bound coast of Maine to the sun-kissed shores of Utah and back and I hope to again."

Somebody was getting kidded around there, and I don't know if it was me or

the Mexes. But anyhow, they seemed to swaller it all right, and was yelling for some more.

Just then, though, I seen Baldy coming back, and a little piece behind him was Frank — driftin' along between a private squad of his own.

"Well, how'd you make it, Baldy?" I says when he come up.

"All right," says Baldy. "Franco is going to go up with you. He didn't want to and kicked like a steer. He don't think you ever saw a flying-machine."

"Marvelous," I says. "How does he do it?"

"But," Baldy continues, "the old man said he could take his little bag of bumbs and trot right along—or he'd have a funeral coming to *him*."

"He's got one coming to him anyhow!" I says.

And I went to work giving the old hoss the last rites.

CHAPTER VII.

WE WHISTLE OFF.

I FLOURISHED here and there and everywhere, peering hence and under, something like I imagined a full-blown pig eye would. I dug up a old busted-snout oil-can and went around squirting liquid refreshment wherever it appeared that there might be a little friction or something. I felt of 'er pulse and opened a petcock and listened to her lungs, and altogether took it upon myself to appear more or less impressive, which same was a long, cold journey from where I was living about that time.

Even the tall, dark flea, when he seen how intelligent I looked the old hog over, begun to brighten up.

"Really," says he, "does the *sanor* have the ability to control the air-sheep?"

"Don't I look it?" I says. "Else why should I waste a lot of good time getting 'er in trim? All you've got to do is just hang on—to them bumbs. Whatever you do keep 'em with you.

"And listen—we may joggle around a little going through the yard, and if I should happen to have to hoss 'er over or anything you be all ready to unload just as suffering quick as the dear, kind Providence will let you. Be-cause—and *get this*, Mike—while I am monkeying with her ET valve and the 'joker' (independent or engine brake) and the sand and so on I can't be bothered with having you and them grenudes rattling around under foot."

I fished in Slick-and-Silky's bag and took out one of the bumbs and has a look to see what they resemble. They'd made a pretty good baseball — only I should want to be the pitcher.

I flicked it around sort of careless and tossed it up into the air and made believe I wa'n't going to catch it— Oh, gracious, you ought to see how much room we had thereabouts.

Then I gave it back to Frank and says to get aboard because we was going to get out of town right away. And he got up into one of the seats and sat down, and hung his cute little bag of bumbs on to a brace.

"Baldy," I says, speaking low so none of 'em could hear me, the tall, dark pain in particular; "Baldy, old-timer, we are about to start on a journey, and we don't know yet if it is going to be a long one or a short one—if we're going to Heaven in a basket or going to live to get married."

"By gadfrey!" says Baldy. "But you've sure got your nerve with you!"

"Don't you believe it," I says. "I'm scared stiff. But what in blazes good would it do me to go and make a fuss about it now? As the sayin' goes, I've made my bed and I'm going to lay in it —and I don't know yet if it is a *permanent* rest or just a ticket to the hospital. But anyhow, I wish you'd send word to Miss Aloha Warren, Mercy Hospital, Boston, Massachusetts—in case I ain't able to do it myself."

"I will that, Aroostook, old man," says Baldy, earnest. "I will."

And we shook hands and says so-long.

I didn't bother to put on my coat or hat, or roll down my sleeves—or take the high water out of my britches legs. My hair, too, was all frazzled till I guess I must have looked like a Izzy Wuzzy; but that was all right, it would have stood up on end anyhow.

"Hiram," I says to myself, as I started to climb into the execution seat, "you ain't got a Chinaman's chance. You ain't got even the chance of a snowball in Hades. The Aetna is the only insurance company that'd make a risk out of you, you big boob.

"But one thing—if you ever get out of this scrape—by the help of Providence and a prayer—if you ever do, for the love *Mike*, go settle down some place."

And Hiram said he would—believe me!

Well, I give 'er some gas and closed the switch and looked at the tall, dark gloom and says I guess we'd whistle off.

"Baldy," I says, "about where are we headed for now?" Meanin' the machine. You know.

"Straight toward the Ishmus of *Tehvantepec!*" says Baldy. "And the River Jordan—helity-larrup!"

"That's comfortin'," I says—"real."

"*What,*" says the tall, dark carcass, "does the *sanor* mean?"

But I made believe I didn't hear him. I wouldn't wanted to make him nervous for the world. He might have kicked over the traces and plumb refused to go anyhow.

"Lilian!" I says, addressin' the barnacle with the big sommebrayo, who'd I'd told about how to twist 'er tail when we got the target. "Lilian, *whoosher!*"

And I pointed at the do-flopper on behind.

"Also, five or six of you other homely-lookin' pieces of tripe hold on to this pig and steady her till she gets up a head of steam; then you aim us some place out there into your salubrious climate and pull the pin. But don't let go till I tell you to! *Mucho* savvy?"

They didn't. But Baldy put some Mex brimstone into it and sort of rearranged it and laid the plans before 'em so clear they couldn't have missed it without duckin'.

I wiggled a gadget on my left and hossed the throttle wide open and tried a Johnson-bar do-flicker on my right and says I guessed we'd got the road and 'twas about time we was pushing along.

One of my private pall-bearers, who I have referred to previously in detail, set down his shooting-piece and got around back and laid violent hands onto the left-hand propeller. He pushed it up a ways and then yanked it down—and things begun to happen with all the danged celerity of a thousand of brick comin' off a roof.

Puff! Bang! Slap! Whir-r-r-r! R-r-rup!

Kissie O'Day! How business picked up! You ain't got no idea how much activity we generated around them diggings in the next few minutes.

There wa'n't nothing on the ground in the first seventy seconds but wearing apparel and guns and cartridge belts. Every last soul of 'em was trying to get some place else just as quick as their poor feeble legs would take 'em.

The only guys who was sitting back in the britching was the lads who was lingering with us till we got up a head of steam. And that day wa'n't far off.

In the mean time, while the clock was walking up, us and that air hog was doing things no living bein's ever did before, or ever will do again and then some. A moving picture of that scene would have been worth a million dollars.

Listen!

When Maggie Ute went around to turn 'er over, he pulled her up into the compression pretty sudden, and she fired. Just like that!

And before my Mex friend knew what was what and what wa'n't, one of them blades hit him a clout in the pants going, and the other caught him behind the ear coming.

Biff! Thud! That guy went over like

the fall of Babylon! I'll bet a dollar and a quarter the last thing he remembered was a starry evening.

About six seconds later the old ship was coming into her own like the children of Israel. She was firing in every cylinder and starting 'em right out of town.

That's one thing I can say for the old battle-ship she was lively. In fact, I guess she was the smartest road-hog I was ever on.

I'll go farther than that! She was the dang, all-firedest, buck-ramming agency of motion *any* living human being was *ever* on—and live to tell it.

She needed them skids all right. But what she needed worse than that was a whopping good train-line and a ET 6 plugged just as lovingly far to the right as she would go. Or else, maybe, a couple sea anchors.

I guess my assistants on the ground was distributed lopsided or something. Anyhow we started pivoting and two of 'em embraced and kissed each other and then done cart-wheels till a telegraft pole took 'em to its breast like they was so much mud

The rest hung on nobly, and we canted and flourished something remarkable Then a couple more of 'em come off and hit the ground so hard they sunk in about six inches.

How it was, what with all this flipping and twisting hence and yon and hitting and bouncing, that we stayed proper end up is something that only the souls in glory can answer.

After we had been out on the main a little, I begun to think that probably it was time that I should commence to find out what these levers I found myself clutching like grim death might be for. So I heaved back on one of 'em and pretty soon she begun to come up on her toe.

Somehow I couldn't bear the thought of leaving the dear old soil so soon, so I jammed it back. Right away we hit and bounced something awful.

"*Caramba! Compañero!*" howls the tall, dark sin. "We will be dashed to pieces!"

We missed a house by something less than a thousandth of an inch and flitted around the town to the south, where the gen, and what of his Aztec warriors wa'n't down to see me off, was having a muster or something.

Us having nothing special on, we headed for the maneuvers going nineteen hundred miles an hour.

There was still three of the porch-climbers flapping from the back part of the lower supporting-plane—two on one end and one on the other. We had just got straightened out in good shape when we bounced off a couple hummoxes—and the twins on my left forsook us and took refuge in a cactus plant. The other sacrifice and Frank stayed.

The guy out on the end of the wing was right out straight like a pennant, and he looked like something might be paining him some place, but I ain't sure; I didn't have no time to go asking foolish questions myself. The tall, dark plot had his mouth open and was trying to holler some more, but I guess he couldn't think of nothing suitable because there wa'n't anything coming out of his mouth but a little saliva.

We approached the gen's parade ground like the "Flying Yankee" freights going through Orange. The gen was about half a point off our bow to starboard, and I guess he was trying to make it a couple points more, because all of a sudden right where he had been standing there was a little cloud of dust which begun moving rapidly in the general direction of Mexico City.

I don't know what kind of a retreat you would call it that took place right after the gen got under way, but I'll bet there wa'n't never another one so unanimous. Some tried to overtake Mr. Honduras and some started for North Dakota and some tried to see if they could get to the Pacific coast before me and this sinful air vampire could catch up to them.

And all this time them grenudes

were dangling there in that gosh-blasted sack.

"Hey!" I bellered at the tall, dark vote. "Throw them blasted bumbs off!"

"No! No!" he says.

"Yes! Yes!" I says.

"The soldiers!" he says.

"That's who they're for!" I says. "Shoot 'em or we'll all go Gehenna! And don't throw 'em into the propellers!"

While Frank was trying to unhitch the bumbs, one of the skids copped a gent who was running in the back of the neck. I don't know what he thought about it, but we had tonnage enough now without picking up any more, which we would have done very shortly; so I says if we was ever going to get up with the angels now was as good as any time—and better probably than if we waited till we had some of the gen's infantry all over our cowcatcher to take to Saint Peter.

Accordingly I put the up-stairs Johnson-bar into the back motion and leaned on 'er.

Then all of a sudden the joggling and jouncing and vibrating stopped. I looked down between my legs to see how they was coming, but I couldn't make out much. All is, either Mex was moving gosh-awfully fast or we was.

And another thing—you never seen a guy sweating like Hiram.

"Well," I says to myself, "anyway, everything is all right so far. But what let's do now?"

We was headed for the Milky Way like a bullroaring sky-rocket—humpin' it through space with a *whur-r-r-r-r!* and a *wish-h!*

Just then I looked and our human pennant was getting ready to go some place. He had give up with one hand, and it appeared that he was going to make a whole-hearted job of it before long. Though he kind of gave one the impression that he'd rather stay.

"It's all right!" I hollered. "We can get along without you now—and I hope to hang you light on old Honduras's collar-button!"

And the guy out on the end of the wing went back to Mex!

CHAPTER VIII.

A VOLPLANING HOGGER.

SPEAKING right offhand, without really knowing anything for sure about it, I should say we was up about thirty-eight miles. The only thing that was giving me any worry was how the heck we would get back.

We was all right now, but there is such a thing as looking ahead a little and doing some prognosticating, even if the future *don't* seem to hold much cheer for you. And always, if you look at the right side of things there is something to feel grateful for—like if I fell from up here nobody would have to dig a grave or nothing for me. You know what I mean

By this time the tall, dark mistake had got the bag of bumbs off the brace and was sitting with 'em in his lap like they was a sack of onions

"Hey!" I hollered above the noise of the blasted engine. "Why the gracious love of Mike don't you drop them gosh-darned torpedoes?"

"They are for Lumbago!" says Frank, hollerin' back. "Turn the machine to the east. It is the direction of the soldiers who retreat to their column."

"Gwan!" I yells. "What the blazes do we care where they went! It ain't Lumbago who's worrying *me*, George! I'll tell you those! No, s'r!"

A fine fat chance we had of finding Lumbago — or anybody else — us a dog-goned speck about half-way to heaven! But I'd forgot, this Franco hornet had been up before. And now that we had got straightened out and got off the ground without having a collision or committing hara-kiri or anything, he was probably a whole pile more used to riding 'em up the line than I was.

Anyhow, he seemed quite a lot more to home after we was out a ways than

he had in the early stages of the ascension. Yes; right after he suggested that we go east without hitch he begun to act real natural.

"*Sanor!*" he yelled into my ear. "To the *east!*"

And something prodded me in one of my ribs.

I had a look.

"We'll go east," I says, "just as soon as I can find a dingus that will line the iron thusly. I don't care *what* the despatcher says."

The villain had a gat stuck up against my person. He must have been simple though if he thought he could kid me like that—anyhow when *I* was pullin' the job, and if I do say it I bet I was doing as good as he could have.

I eased the Johnson-bar up onto center a little, and then examined my other hand. It was clutching a twitchet thingabob that worked two ways.

I bent it one of 'em and we started going around a curve on one wheel. I straightened it up and we went ahead.

I bent it over to the other side and we begun swishing around a tangent into the opposite direction. Then I flopped it back.

"No! No!" blats the itch beside me. "To the east—or I shall shoot!"

"Shoot and be danged to you!" I hollered. "All you got to do is to start saying your prayers!"

Old-timer, did you ever reach a point, when you was firing, say, that you would just as soon the old stubborn goat went into the ditch as not, you was that dog-tired and discouraged and lame and hungry and so on? Did you, smoke?

Was you ever up against a game when your muscles and bones felt like they didn't belong to you, and you, with a soreness and a ache in every inch of you and about two more good gasps in your lungs, would have liked to dropped right in your tracks and died? Ever there, old head?

A human being was built to stand just so much. No more. There is always a time when something has *got* to snap, and no two ways about it.

When the grade is long and the steam is down and the coal is back in the tank, when the fire is clinkered and the hogger is a grouch, and there is a despatcher wanting to know what the limping blazes is the matter with No. 4, when it's hot and the air is dead and your heart's 'way down in your shoes—then is when you know the feel of it!

I used to get it, back in them days when I was first breaking into the railroad game, and I thought the whole blooming load of the division was on my shoulders, depending on whether I could keep 'er hot over the "hill."

I had it that day out there in the sky over Mexico. Something was goin' to snap! As I said before, there are harder things than dying.

I begun to feel the cold something wicked; my hands was numb, my face felt like it was froze into a mask that would break if you hit it against anything, there was roaring sounds in my ears, there was a gaspy choking something in my throat, and then come a swift thought into my half-dazed brain of that sweet little Aloha Warren back there in Boston, who was putting all her faith in Hiram—a long-legged, crazy boomer, brawling around down here in Mex, trying his best to break her heart as well as his own danged neck.

In my bull-tearing hurry to do something *big* I'd half forgot the little nurse-lady, who somehow seemed to believe more in me than anybody else ever had, except my mother. Aloha Warren, good and loving and chuck full of sound common sense and smart as a whip—one of the trusting kind of women who put it up to the men to make good without ever doubting 'em, just always giving all the love there is in their whole being—just for some big boob of a man.

While half the time the big stiff, who can't see nothing but himself for selfishness, tears the heart out of 'em without batting an eye.

You have to be somewhere like I was then to begin to think of them things. You have to get into trouble before you ever find out how much a little loving and babying is worth to you.

Yes; there was a lot of things rushing through my old nut for a little while there. Regrets and hopes and sort of dreams and resolutions, if I ever got the use of any more of 'em—and prayers.

It has been written a lot of times about the special Providence that works seventeen hours overtime every twenty-four hours for the feeble minded and drunkards, and ônce in a while a boomer. I am one of them once-in-a-whiles.

There I was swooping around out in the middle of the universe at sixty miles an hour, headed for Kingdom Come, running light without signals, orders or rights, and not knowing the first darn thing about pulling the latch on a flying-machine, or spotting one—outside of a grease spot - any more than a blind-drunk Oskaloosa Indian.

But the God of all Creation was awfully good to me that afternoon. And—such as it was—we did finally make a landing.

We had come up into the air by me pulling a Johnson-bar club backward, and we started down-town when I jammed it frontward. Some flying hogger has said that with plenty of speed and a little judgment you can do 'most anything in the air

Well, we had speed enough but no judgment; but we did 'most everything that can be done in the air just the same. Yes, sir!

We come straight down and we went straight up. We went sideways and end ways and backwards, and we didn't do no drifting.

We was working steam on the old battle-ship all the time we was with 'er And she might have been running yet, only when we got back to Mex she died of concussion of the brain. And she was pretty near accompanied by myself.

The tall, dark hurt?

Oh, he departed this life, or started anyhow, when we made our first bow—him and his bumbs!

I guess what we did first was a sort of vol-plan', but ours was better than that. It was something that would have give Julius Verne a nightmare.

I had just time to make love to a post when we started. It was the suddenest thing you ever saw—that descent when I laid the reverse down front onto the pin. There was something went by me and passed out between what a guy told me afterward was the stabilizing-surfaces. They was Frank and his bag of bumbs

I don't know how he come out; I never seen him again, and I don't know of anybody else who did. All is, I hope there wa'n't nobody dependent on him.

Furthermore, I forgive him freely for what he did to me, and I hope he liked his trip.

CHAPTER IX.

"A YANKEE ENGINE CREW!"

I DON'T know how close we come to the ground before I managed to get hold of her elevator and pulled it back, but anyhow, I'm glad we didn't come no closer. Since that time I have learned that it ain't the idea to try to come straight down and land; that's bad form. What you should ought to do is kind of glid' down on a slant, but I didn't know that then.

What I tried to do was make it from an angle of about seventy degrees. We was going up and down there for a while like the walking-beam on a high-speed ferry-boat, looking for an opening to light without knocking a hole in the Mex scenery a mile deep.

On the last trip down I give up trying to make the station stop just by hossing 'er, so I grabbed hold of the warping-equipment like it was the good old ET and put her into the "big hole." We was just coming through one of them *swuf-f-f!* sags and beginning to go up again.

Whoop!

What we'd been doing previous to this flirt wa'n't nothing to what developed now. We wrenched and buckled and picked up the slack and begun doing a squeegee that was a cross between the leap of death and a flying switch.

You'd had to saw it to believe it, so Baldy Sours, who seen the whole thing, said. He says afterward that what we did was "go off on the wing," and that it was gosh-rammed fortunate for me that we wa'n't only about thirty feet above the ground at the time.

The whole danged thing was more or less lucky, I should think.

The only details I can give about the concluding carousal is that I wa'n't under the engine when she hit. When I seen that we was due to go into something all over, why, I tried just as loving hard as I could to unload some place, but there wa'n't, you understand, a awful lot of time. There was in fact the least time I ever had to do anything.

I got out of the seat and out on to the supporting-plane away from the engine, and that was as far as I did get. Ten million cubic feet of Mex soil pushed part of the deck up into my stomach so hard that it knocked ten quarts of wind out of me, but outside of that I was in danged good shape for the job I'd done.

The next thing I knew Baldy Sours was working on me like a steam engine.

"How is it, Aroostook?" he says, as soon as I could breath again and begun to take a little notice of things.

"All right," I says—"I guess. How do I look?"

"Fine!" says Baldy. "You lucky son of a gun! But you won't long if any of the Mex population gets hep that you ain't a corpse. They think you probably either tumbled out when Franco did, and like him was blown into everlastingly small pieces, or was killed when the machine hit. There was too much action for 'em; they couldn't follow it all."

"An' I told that tall, dark hybrid to throw them bumbs overboard. Huh! But what's the dope now, old-timer?" I says.

Baldy explained that we was down in a *arroyo* just below the little town with the long name; then went on:

"I was watching your blasted batty ramifications, and when you went off on the wing I slipped down here to do what I could to give you a hand—whether it was bury yuh or give you first aid.

"You're some danged aviator, you are, all right, but just the minute you can get a leg under yourself we've got to pull our freight or our lives won't be worth a plugged nickel, and I don't know as they are anyway. Honduras started a revolution for less than you've done this afternoon, bo."

It took about ten minutes before I felt that I could undertake a retreat under my own steam. Then we started toward the railroad tracks, keeping out of sight the best we could, and hurrying all we dared to. But pretty soon some brunette warriors of the gen's spotted us, and it was all off

There wa'n't nothing could have kept me from running then even if I'd been on crutches. There wa'n't nothing at all the matter with me now. I'd been through too much in the last twenty-four hours to give up the ghost at this stage of the game.

So Baldy and me come right out in the open places and started galloping past the outskirts of this town of wo, going just as tight as we could churn our poor miserable legs. We headed toward the lower end of the railroad yards, making fervent remarks about hoping that there was something there that we could ride some place on danged all-fired sudden, while fetchin' up the rear was the whole wicked Reb army, potting away at us like we was a couple cottontail rabbits. They'd stood a better show of overtaking us without the use of gunfire.

But things looked pretty bad, and when we passed around a corner by a couple freight-cars and headed up the main line toward the United States bor-

der our chances didn't look to be worth seven cents in Chinese. And then we saw that Mex National road hog.

I never saw nothing in my life that had the comforting, come-to-mother look that mogul had. We couldn't see anybody in her cab so we ducked between some cars and started for her like she was a million dollars.

Joyous, peaceful moment — when we took them hand-irons and went up through the gangway!

"Home at last!" yells Baldy, grabbing for the pig's throttle.

"Can you run 'er?" I hollered.

"I got a bald head running freight-hogs on the Central Lines!" Baldy hollers back. "We got a little fog and a little water and a little coal—I guess this mill won't stick me. Can you fire?"

"I got six weeks in the hospital from firing on the B. and M." I says. "I can't do no worse on this ten-wheeler."

"Wow!" hollers Baldy. "Fetch 'em out! A Yankee engine crew!"

And he jerked a couple squeals out of her dome, and we was on the way to the Rio Grande.

CHAPTER X.

WE RUN THE JOB WITHOUT ORDERS.

I GUESS the job that the mogul was pulling must have come in from the north a little while before we found her, with the hog running backward, because in front of her pilot was a box car and in front of that a passenger-coach with some flags on it.

There wa'n't nothing ahead of us in the siding but a closed switch, and we went through that going just as fast as we could with the short start we had.

About that time a guy climbed off the passenger-car and headed for the telegraph-office working all over.

"We got some passengers!" Baldy hollers, and scoots out on to the running-board to turn the angle-cock.

"Who ever left her," he says when he come back, "didn't set her air. The best them guys ahead can do now is twist up the hand-brake—if they think of it. And if they do we'll shove 'em just the same. If they try to come over and start anything I've got a gat that 'll take care of them for a while."

But there didn't anybody come over, and I found out when we got to Texas that there was a darned good reason.

"Won't the guy that jumped off back there telegraft ahead," I says, "and have 'em try to stop us?"

"Maybe," says Baldy. "And if they do I'll take my chances with them lads up front. The same goes if we happen to meet anything. But I'll make a bet that they give us the road, if you should ask me, Aroostook."

And they did.

At the towns we popped through the order-boards was all out against us, but that was all. We wa'nt running the job on no Mex orders that we knew of, and such a little thing as a red target didn't mean any more to us along about that time than if it was a part of the scenery. All we was doing that interested us was just going.

And, old-timer, you take it from me—that was exactly what we was doing. *Going!*

The curves was a even bet if we made it or went into the ditch; and we hopped plumb over the switches and we didn't go into the sags at all. We was strictly touching nothing but the high spots.

Baldy says afterward that once in a while he used to run freights something like that, which was why he had to take to boomering

Between the little town with the long name and the International Bridge there was one job in the clear for us, and one trying all-gracious hard to get in. They made it except about eight inches. But that was near enough—for us. We wa'n't fussy or nothing like that.

And then, in the first graying of night, come a glimpse of the Rio Grande—the silvery Rio Grande. And, old man, it *is*

the silvery Rio Grande! It was to Hiram, anyhow.

Folks may tell you that it ain't nothing more or less than a muddy old brook. Don't you believe them. They never seen it when they was coming out of Mex like me and Baldy.

Anything that bounds the U. S. A.—that is in the shadow of the Stars and Stripes—is silvery, I don't give a hoot *what* the knockers say. And I notice, too, that the home talent mud-slingers are always glad to get back home to Uncle Sam. There is more than one Golden Gate on our coast line for a lot of 'em.

We come through the yards on the Mex side of the river like we wa'n't going to stop till we got to Kansas City. Somebody got the bridge-track switch, and we went on to the International Bridge with a *hoot-hoot!* and a *hurrah!* And we was in Texas, with brakes screeching and the pop wide open on that old 4-6-0.

Almost the first person I saw was a United States corporal standing there by the railing where it says, "Walk your horses." His homely old mug was the sweetest thing I ever saw. And if there hadn't been so much doing around there right off I would probably have gone over and kissed him.

Say, who do you s'pose our passengers up ahead was? By gorry if they wa'n't six of old Honduras's generals, and they was together the maddest and the scaredest 'dobe soldiers you ever saw.

And in that freight-car right there in front of our pilot? Oh, gosh! Some dynamite and a few thousand rounds of ammunition and so on, which was a darn good reason why nobody monkeyed with us on the way up out of the little town with the long name.

There was some of several languages around there for a while, and it was colored something grand. Then a U. S. captain of infantry come up. He looked the outfit over kind of interested—and grinned.

"Well, cap," I says, "look what we brought you."

"By gad!" he says. "Where'd you get it?"

And Baldy told him.

"I'll be blowed!" says the cap, right off blunt just like that, and shook his head. "Why, jumping Judas! That's the stuff that was smuggled across the border last night! We tried to nab it but it got through somehow, the Lord only knows where; yet two wild Yankees come flourishing into town, carting it right straight back to us—together with a bunch of Honduras's villain generals for good measure.

"Huh! I guess it's a good thing for the revolutionists that there wasn't any more than two of you lads, or Heaven knows what you would have brought home."

"Well, there *was* another of us," I says. "Boston Micky. But he's down there. He wants to be remembered to you boys—and the folks up here in God's country. And I wish you'd tell the Catholic chaplain to remember Michael Donahue when he says mass.

"He died with his boots on—went out thinking of the Stars and Stripes and Uncle Sam. It was Boston Micky who showed *me* how a man fights and how a man dies."

"I will tell the chaplain," says the captain. Then he turned to a bugler and gave an order. "Play taps. It is for Boston Micky in Mexico."

And the soldier, standing there straight and tall with his face to the Rio Grande, played the saddest call of all, and the men came to attention and took off their hats—even the Mex generals.

"Gee!" says Baldy. "But Micky would like that!"

That night Baldy Sours and Hiram was the guests of some officers of the United States Army. They wanted to hear all about it. And we told 'em the story clear through.

They liked it a lot, too, especially when it come where I and the tall, dark fester and a old biplane went out into the sky

over Mex and done them wrangdoos I told you about.

"And are you boomers going back there one of these days?" says the captain, who had sort of took me and Baldy under his wing.

"Not me!" I says. "I'm going down east I'm going home to New England. I sent a Western Union telegram to a little nurse-lady up in Boston a couple of hours ago—asking her if she thought she'd like to sign 'Lady Hiram' to a '31' about double-heading a special on the 'long hike.' Here's what she says."

And I showed him her answer. He read it and smiled and nodded his head, then held out his hand.

"Good luck, old man! It's the best way after all. I have a little woman on the Cape waiting for the Bay State boys to come up out of Texas, too. There's nothing quite like the thought of just—*home!*"

I guess Aloha Warren, who seems to have more 'n a ordinary lot of love and faith in a certain rangy old boomer, thinks there ain't either.

Anyhow, here's the telegram, old-timer:

Yes'

LADY HIRAM.

(The End).

THE TIME OF DAY.

BY CHARLES R. ANGELL.

ROLLING along on the hand-car
To work at the breaking of day
I go by a little red shanty
That stands like a guard by the way;
'Tis Casey that peeps from the doorway—
A watching the crossing is he—
And I says, "Good morning," to Casey,
And he says, "Good morning," to me.

ALONG with the heat of the noontime,
When life is no longer a song,
And patience is strained to the breaking
With things on the section all wrong,
I might lose my temper entirely,
But somehow in fancy I see
The little red shanty and Casey,
And hear his, "Good morning" to me.

AT dusk when I roll my way homeward,
My heart's feeling glad on the way,
And somehow I'm grateful to Casey
For cheering me up through the day;
So when I go past the red shanty
A pleasant night's rest I can see
As I says, "Good evening," to Casey,
And he says, "Good evening," to me.

On the Editorial Carpet

Where We Gather in the Hut, Tell Our Troubles, Help One Another, and Sing Some Old Songs.

ONE department of this magazine upon which we especially preen ourselves is that called "Help for Men Who Help Themselves," where subjects of direct professional interest to railroad men or telegraphers are taken up in a manner not found elsewhere—a manner not only different, but better. One article may give you facts that you'd have to dig through a library to find, another may summarize the results of a lifetime of experience, a third may place before you the latest discoveries in the technical field, and so on.

And practically without exception the articles are so plainly written that any one can understand them, and so interestingly stated as to provide good reading for everybody.

High as the "Help for Men" Department now is in the estimation of this magazine's friends, it will go several notches higher upon the appearance of the new series—

WIRELESS POINTS AND POINTERS.

BY SAMUEL W. BEACH,

Author of "Uncle Sam's Telegraphy," "Signals Used at Sea," "The Dreadnought's Nerves," "Secret Codes and Signals," etc.

MR. BEACH'S new series will start in the next issue, and will appear in three parts. The first part will give the history of wireless, the second will deal plainly with the theory; and the third will take the subject of practise. Like all Mr Beach's work, with which followers of the RAILROAD MAN'S MAGAZINE are familiar, the articles are written in terse, vivid English, with the little-known features unforgetably described, and the whole pervaded by a delightful vein of humor.

The wireless is coming into train operation, boys; don't forget that.

Be forehanded. Get right in front of the line of march.

Let Mr. Beach boost you onto the band-wagon.

THE Grand Central Terminal in New York is the slender neck of the big railroad bottle through which no less than one hundred and eighty-nine thousand, two hundred and thirty-four trains, exclusive of switching operations, were despatched in 1916. One million, two hundred and eleven thousand, seven hundred and sixty-four cars in a single twelvemonth! Five hundred trains a day, driving like shots from a Gatling gun! And not a single smash up. No errors. Not one. Why? Because the modern power interlocking switch and signal system is not only incapable of going wrong itself, but is capable of correcting human mistakes. Marlen Pew will explain about these unerring mechanical path-finders next month.

Lots of pictures.

"BOOZE and railroading don't mix"—a hoary railroad saying, and as true as it is hoary. The brotherhoods and the brass-collars alike are fighting John Barleycorn, both for the sake of the men and for the sake of the traveling public. C. H. Claudy will tell you

how the railroad saloon has been beaten by saloon methods. Especially interesting in view of the present world-movement against the alcohol evil.

WHO are the stars of the telegraphic firmament? For the answer to any query which may be asked in this connection see Donald McNicol's article in the next number He gives the whole thing—records made at tournaments, the personality of the men, description of how contests are put on, copy the contestants handle, and so on. First time all this information has been assembled under one roof. A fitting preliminary to the next tournament, preparations for which are in the air even now.

AND there's a red-ball consist of fiction, too. Just as an example, take the long story, "On the Graveyard Trick," by Charles W. Tyler. Here's an author who knows railroading as only a man who has got a crick in the back from lading black diamonds or proud-flesh from pounding brass can know the fascinating game. Another mountain division story, by the author of such memorable tales as "At Mile-Post 104," "Outlaw of Rainbow Cañon," "At Mile Post 87," "The Fight at 'OX,'" and "Beating the Shadow Bum."

THE RAILROAD MAN'S MAIL-BAG.

HERE is an interesting letter from Mr. Howard H. Thompson, taking exception to certain statements made by President A. H. Smith, of the New York Central lines, in an interview with Harry Hodgins, written for a recent issue of the RAILROAD MAN'S MAGAZINE. Both these gentlemen are probably right. Mr. Smith evidently had reference to the effect in a general way of automobiles on railroads throughout the country, whereas Mr Thompson has in mind only local conditions in California. It is undoubtedly true that in certain places the automobile, as a means of transportation, has become almost, if not quite, as truly a public utility as the railroad. In fact, since the receipt of Mr. Thompson's letter, the California Senate recognized such a local development by passing the Carr Jitney Bill, which brings jitney-buses, motor-freight, and stage lines under the control of the Railroad Commission. Under the Bill, operators of such lines will have to obtain a certificate of public necessity and convenience before engaging in business. On the other hand, it is not likely that Mr. Smith intended a blanket statement covering all places and all conditions to imply that gas-driven competition would never make any inroads on the steam carrier's cash box. In any case, we are glad to print Mr. Thompson's very interesting comment on the subject.

I have just read Mr. Hodgins's article entitled "Fifty Years from Now," and if you will pardon what seems monstrous temerity, I feel that I simply must rise to disagree with a statement or two in regard to the automobile.

President Smith is quoted as saying:

"The automobile will never seriously affect the business of the railroads, for it will depend upon the uncertainties of road travel, whereas the railroad will continue to operate with wheels on rails and with schedules fixed"

It is quite evident that if President Smith made this statement, he overlooked California, the fact that her highways are among the best in these United States, and that they will carry a heavily loaded automobile in mid-winter, in the valley regions particularly, even better than his rails will carry a train over portions of his road during the same season, for the simple reason that an asphalt highway does not present the same transportation problems that a snow-covered, ice-encrusted stretch of steel rail does

In California, automobiles don't stop for rain, which constitutes our winter in the valleys; and, furthermore, these automobiles are operated with "wheels on solid *highways* and with schedules fixed." They are living up to their schedules as religiously as any steam railway in the country

While it is a fact that "the uncertainties of road travel" exist, in the State of California they are becoming fewer and of less consideration each year, and if the State of New York was favored with the California brand of climate, the railroads of that State would soon be suffering much as those of this State are.

At the present time there is a large number of automobile stages operating out of the city of Sacramento alone, to most near-by points served by the steam railroads, and many places that are not reached by either steam or electric road. The automobile maintains its schedule; its rate per mile is usually cheaper than the steam roads, and it makes the trip between the same points oftener and more quickly than the steam roads.

For instance, Stockton, a city approximately fifty miles south of Sacramento, may be reached by either the Southern Pacific, Western Pacific, or Central California Traction line; yet there are nine automobile stages out of this city alone, daily, for Stockton. The fare on some of these stages is only seventy-five cents, on others a dollar for the one-way trip, while a one-way ticket on any of the other lines will cost $1.25 or over.

These nine stages travel a highway that is as perfect for the automobile as steel rail is for a steam train. They maintain schedules, make the trip in much less time at a cheaper rate, and they are full most of the time. Are the railroads losing money on this proposition?

In addition to these numerous passenger stages there has been a number of freight stages in operation between various points adjacent to Sacramento within the past six months. These stages appear to have the capacity of a standard box-car, or nearly so. I might add that they are transporting freight. Now, if the railroads of the State aren't losing this business, who is?

If President Smith actually used the word "never," it was too strong. The automobile *is* affecting the business of the railroads of the State of California, and repeated efforts have been made to have them declared common carriers and placed under the jurisdiction of the Railroad Commission.

However, here are a few figures quoted from the monthly paper issued by the Order of Railway Employees, issued for the month of March, 1917. The Order of Railway Employees, by the way, is a lodge, and not a labor union, as almost any railroad man knows.

While this item is devoted particularly to the so-called "Jitney Question," or the automobile used in competition with electric street-car lines and interurban lines, there are some few corporations listed which give food for thought. Except to say that this article shows the United Railroads of San Francisco to have lost one million dollars during the period covered by the report, through the operation of the jitneys, I will not quote street-car lines. Here is the article:

> In calling attention to the loss of revenue to the State by reason of the operation of automobiles and jitneys in competition with the electric lines as common carriers, the State Board of Equalization in its report for the year 1915-1916 submits the following table showing the estimate loss of revenue to several roads.
>
> | | |
> |---|---|
> | Amador Central | $3,000 |
> | Atchison, Topeka and Santa Fe | 335,000 |
> | Lake Tahoe | 1,600 |
> | Nevada County Narrow Gage | 5,350 |
> | Northwestern Pacific | 40,000 |
> | *Southern Pacific Company | 500,000 |
> | Sunset Railway | 43,200 |
> | Tidewater Southern | 40,000 |
> | Wells, Fargo & Co. | 180,000 |
>
> * Passenger only.

As stated, I have omitted electric street-railways that were listed; and, continuing the quotation of the *Order of Railway Employees' Magazine:*

On this subject the report concludes:

> From the point of view of State revenue, this board considers this a serious situation, and urgently recommends that legislation be enacted to provide a tax on the class of utility referred to (jitney) sufficient to reimburse the State for its losses. To classify this form of utility under the State tax law would require an amendment to the constitution, but there should be no difficulty in arriving at a figure in the way of a license tax, based on the average earnings or seating capacity, that would be equivalent of the tax paid by the steam electric lines.

If it is a fact that the automobile will "never seriously affect the business of the railroads," why should Wells, Fargo & Co. have lost $180,000 revenue by automobile competition? Why should the Southern Pacific Company lose a half million dollars in passenger traffic alone? Don't the railroads usually carry express?

In California, then, the railroads seem to have lost their proportionate earnings from the $180,000 diverted from Wells, Fargo & Co. to the automobile stages, in addition to individual losses from diverted passenger travel.

However, it should be understood that I am not writing this with any desire of having it published, for, no doubt, Mr. Smith knows the railroad business "from A to izzard," and is more familiar with conditions in general about the country than what we are accustomed to term "the average man"; but the statement quoted at the beginning of this letter was so glaringly contradictory to the actual facts as they exist in the State of California that I simply couldn't let it go by without calling your attention to it. The editor is used to people venting their feelings on him and doesn't mind it.

Even a railroad president cannot be expected

to know everything, and while Mr Smith's other predictions may, after fifty years or less have rolled round, be shown as having been entirely too conservative, I am of the opinion he will have to reconstruct his views regarding the automobile as related to the steam railroad The automobile has "already arrived" in California, and will possibly eventually do so in Mr. Smith's territory

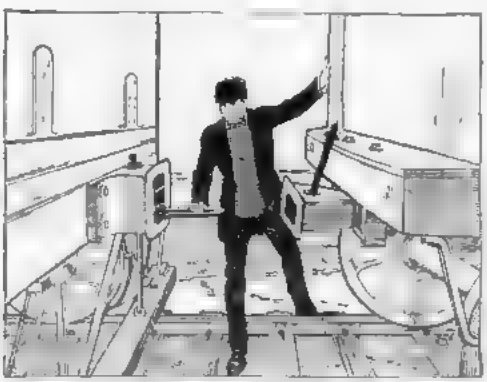
If you have read this far, I thank you, and am

Very truly yours,
HOWARD H. THOMPSON.

1616 G Street,
Sacramento, California.

LINK-AND-PIN TECHNIQUE.

AN old-timer takes occasion to check us up on some errors of detail which appeared in an illustration to the article, "Romance of



HERE'S A SMALL REPRODUCTION OF THE SKETCH, SHOWING A LINK-AND-PIN COUPLING, THAT MR I. H. BAXTER WRITES US ABOUT

the Coupler." Accidents will happen and mistakes will occur in the best of magazines, and we are always glad to have you catch them by the heels. May all our errors be corrected in so efficient and so kindly a fashion as this:

> Please grant a few minutes to an old-timer. I have just finished reading the "Romance of the Coupler" in your March issue, and right off the reel I wish to say that I enjoyed the article It was splendid, and it recalls many incidents of the "old days."
>
> As a matter of fact, my memory recalls many facts so vividly and so accurately that, as a consequence, I beg to add a little by way of explaining a few things that the article and the accompanying sketches don't seem to convey properly to the old-time shack

First, the sketch entitled "Making a Coupling," while sufficient to convey to the inexperienced the general method of procedure, doesn't look natural to the older boys. Because you know that, in the first place, it would be physically impossible for the ordinary man to have one hand half-way up the corner of a box-car, and the other hand grasping the link.

Besides, if he attempted to do so, and persisted in standing facing the draw-heads, with shoulders toward the end beams at the time the link was within a foot of the opposite draw-head, he would, in nine cases out of ten, be crushed as flat as the proverbial pancake

And again, he would not grasp the link with his full hand, as shown in the sketch For, to do these things as described, while the cars were so close together, would mean that he would have neither the time nor the chance to enter the link and get into the clear.

This tenth chance that I speak of is all that saved the writer's life on his first trip out as a shack. In my ignorance and inexperience I went about it in this manner, and the result was that I was squeezed until my eyes fairly popped from their sockets, and all that saved me was that the two opposing cars just happened to be both equipped with full-sized bumper-blocks—which, by the way, aren't shown in the sketch—and being rather small, as men go, I didn't require so much actual space as a larger man would have required. Well, I didn't repeat the experiment in that manner

Once, in a blue Monday, perhaps, you might have found two old-style cars that would have permitted one to have made a coupling in this way; but, as I remember it, the wise ones avoided this method

Now, provided the hog-head was a cheerful and considerate man and didn't happen to be carrying a man's-size grouch, it would have been possible to have many times made a slow, deliberate coupling in this way with perfect safety, and, of course, it was done; but, as I remember it, things were likely to be more lively at times, and very often you had no warning that the hunch was coming until the impact was on and the dust was flying from the sudden and terrific meeting of the two cars

A number of times, while in the employ of the Pennsy, I have seen an enraged shack, after such an unlooked for hunch, grab a link or a convenient pin, and rush up ahead of the engine and threaten to literally murder a careless hoghead.

Many fatal accidents resulted from such unwarrantable methods, and the average

day's work was replete with incidents which at the time furnished amusement to the uninterested portions of the train-crews; and these incidents always bordered so near to grim tragedy that, when viewed merely as a retrospect, they are disquieting to the nerves.

If I had any ability as a sketch artist, I believe I could draw from memory of past events a sketch of real link-and-pin coupling that would tickle the memory of thousands of the old boys who used to crouch—yes, crouch is the exact term—under the bumpers and "flip 'em in."

You see, in making a coupling, if there only happened to be one or two cars between the cut end and the engine, the bump was likely to start, and arrive, too, with little warning, and for this reason one was likely to be very timid about taking hold of the link as though it was a shovel-handle and one had plenty of time to let go.

The tips of the fingers were enough to risk, and many times a trifle too much. Of course, if several cars were attached to the engine and the slack didn't happen to be already taken up, the bumpety-bump of the slack being taken up as it traveled toward you was an unfailing indication of what to expect; otherwise you trusted to blind luck and your nimbleness of hand and feet.

And I wonder how many will recall the nice little ornaments that used to decorate the ends of "truss" rods that protruded through the ends of car-beams, which many times are reenforced over the usual nuts by sundry bits of ill shaped strap-iron. These usually stuck out at just the proper angle to catch on one's coat sleeve or arm when trying to make a quick getaway, and sometimes when trying to remedy an apparent coupling failure by reaching over the bumper-blocks to grasp a stubborn pin in time to shake it down and save backing up or following up for a second attempt.

And here is another fact that might seem unreasonable to the youngster of to-day. The practise of making slow couplings—that is, deliberate enough to permit standing carelessly between the cars—and taking hold of the pin firmly, as though one intended to prolong the operation, was frowned upon by all the wise brakemen.

It was really much easier and safer, for several reasons, to have the impact come reasonably quick than otherwise, for if it came slowly, one was actually entering the drawhead; and, in this case, one had little time to let go and get the arms and head out of the way. While, on the other hand, if the oncoming car was moving faster, a quick flip with the tips of the fingers, when the link was a considerable distance from the mouth of the draw-head, if done rightly, would insure its entering, and give the hand sufficient time to be withdrawn in safety.

These apparent unimportant details were in reality the most important things to be learned and practised, provided one wished to remain in the service for any length of time and to come out with a body "intact."

I. H. Baxter.

Medford, Oregon.

NOTE TO INVENTORS.

WANT to originate something? If so, try yourselves out on this. No, we don't know what possibilities there are in the idea, if, indeed, it has any at all.

In your issue of January, I notice an article on the Muhlfeld system of coal combustion. Have had an idea in my head for several years now, somewhat on the same lines. Would explode coal-dust in cylinder same as gas, driving piston, which would be getting power from coal without converting it into steam.

Do not know if this is practical or not; just give the idea, as I thought it could be developed by some one familiar with the subject. Am not a chemist or a mechanic myself, so the idea is given for what it is worth.

H. Slater.

302 Liverners Avenue,
Detroit, Michigan.

ADDRESS WANTED.

Readers of the Railroad Man's Magazine *who make requests to locate missing relatives through these columns must abide by the following:*

All requests must be written in ink and a complete description of the missing persons given, as well as full name and age.

We will not publish these notices unless they are signed by the nearest living relative of the missing person, and we must be assured that every effort has been made to locate him through the various brotherhoods or associations to which he might belong.

The person making the request must also give his or her complete address.

INFORMATION is wanted of the whereabouts of Harry J. Auble, 5 feet 8 inches in height; dark hair; dark eyes; weight, 170 pounds; 20 years old. Last seen or heard from in February, this year. Any information concerning him will be greatly appreciated by his sister, Irene Auble, General Delivery, Buffalo, New York.

SONGS BY BARDS OF RAIL AND WIRE.

ODE TO MORSE.

(Air, "My Maryland")

NOW let a nation's voice proclaim
The glory of dear Morse's name;
Oh, may its power ever be
A harbinger of unity!
The lightning's subtle spark he brought
To send intelligence and thought,
And then Jehovah's blessing sought—
"What hath God wrought!
What hath God wrought!"

THE creature of his master mind
Will brothers make all mankind;
The heathen's eyes "'twill cause to see,
And lead him nearer, God, to Thee"
Bless'd be his memory from on high!
Light of his genius never die!
In every land resounds the cry—
"What hath God wrought!
What hath God wrought!"

The above was written by Marion H. Kerner, and was sung by the audience at the unveiling of the Minot monument at Harriman, New York, May 2, 1912. The Minot monument commemorates the sending of the first train-order by telegraph in 1851.)

THE CABLE.

'TIS done! The angry sea consents;
The nations stand no more apart.
With clasped hands the continents
Feel throbbings of each other's heart.

Speed, speed the cable! Let it run,
A loving girdle, round the earth,
Till all the nations 'neath the sun
Shall be as brothers of one hearth—

As brothers pledging, hand in hand,
One freedom for the world abroad,
One commerce over every land,
One language and one God.

The foregoing lines appeared in a magazine at the laying of the first Atlantic Cable in 1858.)

RULE 99.

A SERIOUS trouble on every one's line
Is how to enforce Rule Ninety and Nine.
When a train makes a stop at an unwonted place
The flagman must go back in every case;
He must stay with his flag, nor come back at all,
Until from the whistle shall sound his recall
One case I have heard of, which raises a doubt.
A train had been stopped, the flagman sent out;
Back to the rear the man promptly went;
When with growlings and snarlings of evil intent
From a dense woods near by came a big hungry bear
To assist in the flagging and take up his fare
If the man's with the right sense of duty imbued,
Must he follow the rule, stay there and be chewed?
If he did it was likely that nought but his boots
Would be there to come in, in response to four toots.
So he searched the rules through remarkably fast,
No solution appeared till he came to the last.
Then the answer he found in Rule One Twenty-One,
Which clearly defines the right thing to be done:
"If the case is uncertain or some doubt exists
Take the safe course and be sure not to run any risks"
So, heartily thanking the man who compiled that,
He turned on his tracks and ran back like a wild-cat.

—*Railway and Locomotive Engineering.*

SONG OF THE AMERICAN R. R. MAN.

WE are the wings of the eagle, spread to the scarlet sky.
Sturdy and strong we speed along, heeding our master's cry.
The eagle's beak is the army—the navy its curving claws,
And both may fight through day and night, and the wings will never pause.
We are the wings of the eagle, and our steel-lined tips are spread
From shore to shore where the oceans roar—from north to the Gulf Stream's bed
Let the soldier look to his rifle, and the sailor look to the sea,
And what they need, with an eagle's speed, be sure they will get from me.

We are the wings of the eagle, flecked with our labors' foam,
With freight and mail we blazed the trail for a mighty nation's home
As in peace we have been your servant, so in war we will be your slave,
And our wings will hum, and our pulses drum, till the flags of freedom wave.

We are the wings of the eagle, eager to prove our worth,
Fitted by skill to do your will with the best-trained men on earth
Then load us up with the burden, and fire the opening gun;
And remember, Sam, the railroad man is ever your loyal son.

—*Southern Pacific Bulletin.*

American Institutions —Baseball and B.V.D.

JUST as Baseball is the great American Game, so B.V.D. is the great American Underwear. It is made to fit the American climate, the American figure and the American idea of personal efficiency through cool comfort.

In our own modernly equipped cotton mills at Lexington, N.C., the fabric from which these Loose-Fitting B.V.D. undergarments are made, is produced in a scientific manner from selected cotton to insure durability in wash and wear.

In our own B.V.D. Factories the garments are skilfully cut, strongly stitched, accurately finished —to fit and be cool and comfortable all day long.

If it hasn't this Red Woven Label

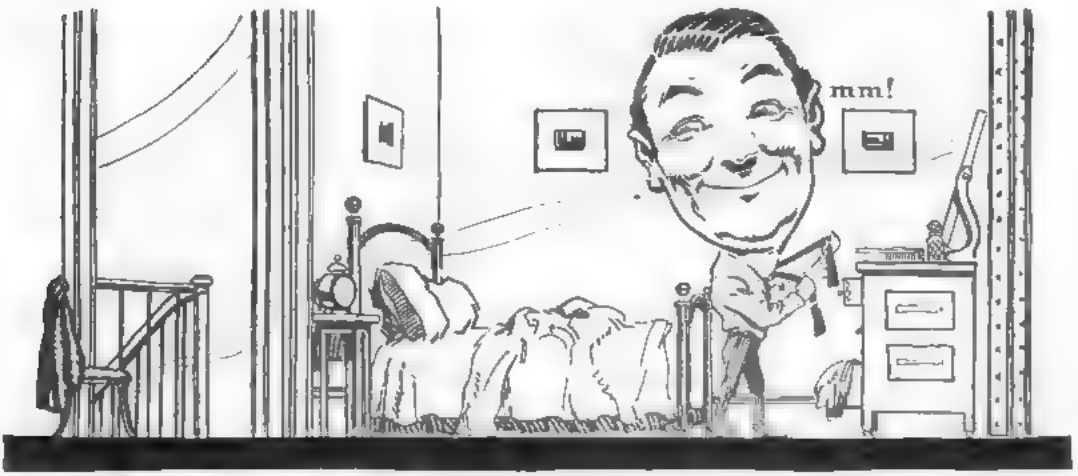
MADE FOR THE **B.V.D.** BEST RETAIL TRADE

It isn't B.V.D. *Underwear*

B.V.D. Coat Cut Undershirts and Knee Length Drawers, 50c. the Garment. B.V.D. Closed Crotch Union Suits (Pat. U.S.A.) $1.00 the Suit.

THE B.V.D. COMPANY N.Y.

RA 1607



HOW do you know there's ham and egg's for breakfast?

"Your Nose Knows"

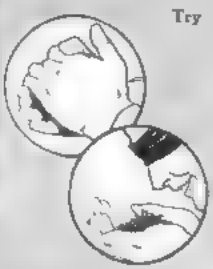
By that appetizing *fragrance* that comes up-stairs to you—promising you the first delight of a new day. Fragrance is an indisputable guarantee of goodness. Just so the *pure fragrance* of a good tobacco guarantees a wholly satisfying smoke. Fragrance is a true guide. Trust it—"Your Nose Knows."

Its *pure* fragrance is the charm of

Tuxedo

The Perfect Tobacco for Pipe and Cigarette

Its tender, rich Burley leaves, grown in the Blue Grass region of Old Kentucky, are ripened and blended with expert skill—giving Tuxedo a *pure fragrance* all its own, a fragrance "Your Nose Knows."



Try this Test: Rub a little Tuxedo briskly in the palm of your hand to bring out its full aroma. Then smell it deep—its delicious *pure fragrance* will convince you. Try this test with any other tobacco and we will let Tuxedo stand or fall on your judgment—

"Your Nose Knows"

Statement of the ownership, management, etc., of THE RAILROAD MAN'S MAGAZINE, published monthly at New York, N. Y., for April 1st, 1917. Required by the Act of Congress of August 24th, 1912.

NOTE—This statement is to be made in duplicate, both copies to be delivered by the publisher to the Postmaster, who will send one copy to the Third Assistant Postmaster-General (Division of Classification), Washington, D. C., and retain the other in the files of the Post-Office

State of NEW YORK } ss.:
County of NEW YORK }

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared WM. T DEWART, who, having been duly sworn according to law, deposes and says that he is the Business Manager of THE FRANK A MUNSEY COMPANY, Publisher of the RAILROAD MAN'S MAGAZINE, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24th, 1912, embodied in Section 443, Postal Laws and Regulations. To wit:

That the names and addresses of the Publisher, Editor, Managing Editor, and Business Manager are:

PUBLISHER—THE FRANK A. MUNSEY COMPANY, 8 West 40th Street, New York, N. Y

Editor—ROBERT H DAVIS, 8 West 40th Street, New York, N. Y.

Managing Editor, ROBERT H. DAVIS, 8 West 40th Street, New York, N. Y

Business Manager—WM T DEWART, 8 West 40th Street, New York, N. Y.

That the Owners are: (If a corporation give its name and the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock.)

THE FRANK A MUNSEY COMPANY, 8 West 40th Street, New York, N Y

FRANK A. MUNSEY, 8 West 40th Street, New York, N Y.

That the known bondholders, mortgagees, and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are:

There are no bonds, mortgages, or other securities against THE FRANK A. MUNSEY COMPANY.

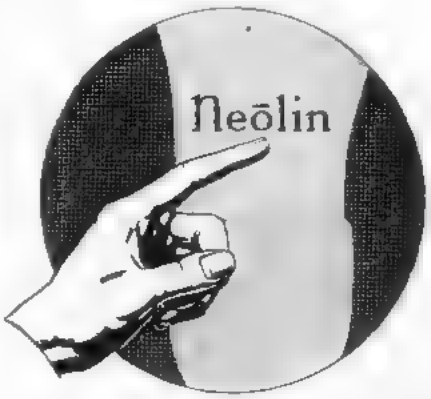
That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

WM. T. DEWART, Business Manager.

Sworn to and subscribed before me this 2d day of April, 1917.

A. V. KASS Notary Public
New York County, No. 238.
New York Register No. 8190.
Term expires March 30th, 1918.

SEAL



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It represents the better-than-leather shoe sole whose success has brought many imitations—which do not imitate. And it is better-than-leather on *many* counts.

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Leather is unyielding and foot-troublesome. Neōlin has a built-in, pliancy you can prove on your foot in the store.

Leather drinks water and absorbs damp, but Neōlin dry-proofs feet. It grips as invariably as leather slips.

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Trade Mark Reg. U. S. Pat. Off

Better than Leather

The Railroad Man's Dollar

Do you get the most for each dollar you spend? We have on our list, and we are in touch with, hundreds of firms in every line of business in the country. No matter what you want to buy (see the suggestion list on this page), The Railroad Man's Magazine will help you with information and advice that will insure economical purchase and complete satisfaction. *This service absolutely FREE*—All you have to do is to fill out the coupon below and mail it to the "Railroad Man's Dollar Department." By return mail we will gladly put you in touch with several firms that will give you complete information that will aid you in making a choice of the best articles and biggest values in their various lines. In a series of trade talks appearing on this page the Dollar Dept. will endeavor to give timely hints to readers.

WHAT THE RAILROADS OFFER:

No matter what position you now have, there is always a better one waiting if you are prepared to fill it. The way to progress is to use your spare moments to advantage, and have an aim in view.

OCCUPATIONS FOR YOUNG MEN

Telegraphy offers many opportunities for promotion and permits of a good start in the world. One can learn to become an operator by home study, with the help of an automatic transmitter and Morse phonographic records. A good telegraph operator can always secure employment with any of the telegraph companies, railroads, press associations and newspapers.

The railroads at the present time have positions for men who can qualify as firemen, brakemen, locomotive engineers, machinists, carpenters and positions in many other branches of this great industry. To enter any of these branches of service, we suggest to readers that they make application to the superintendent or foreman of the railroads in their district. Upon their application being received favorably, in many positions it is necessary for the applicant to know something about the work he is to do and to pass an entrance examination. Many of the requirements can be learned at home, through books covering the subjects.

Thus, as an example, firemen preparing for the right-hand side of the cab must be fully informed with regard to locomotive breakdowns, have a complete knowledge of the workings of the air brake and air-valves and, in short, should know all train rules, signals, and be thoroughly familiar with the workings of the modern locomotive.

The express and railroad mail service both employ a vast army of men who are trained and who are required to keep their work up to a certain standard, in order to hold their positions. Both the express and postal clerks are required to know and direct the shortest and most economical routes for the carriage of merchandise. Mail clerks are also required to sort mail according to cities, districts, streets and numbers as the train rushes to its destination.

Reliable correspondence and civil service schools will be found of great assistance in preparing men to pass the civil service examinations that are necessary to become a railroad mail clerk for Uncle Sam.

Through this talk, we seek to inform readers of various positions that are open to them, if they have the right qualifications, and it also hints as to how to prepare for them. We do not undertake to answer correspondence requesting detailed information as to certain positions with railroads or other companies, as it would be impossible for us to give our attention to the voluminous correspondence this would involve. We do, however, gladly offer our services in recommending correspondence schools, telegraph instruction, and books which we believe would prove useful in preparing men for any of the above positions.

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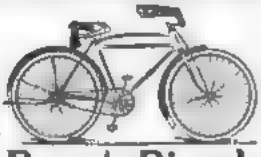

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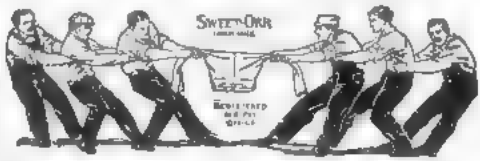
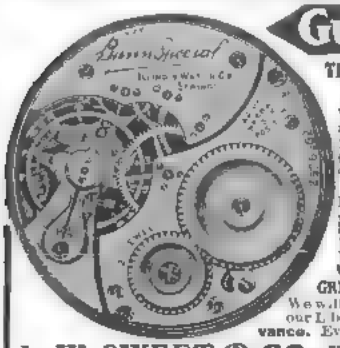


Guaranteed Railroad Watch ON CREDIT



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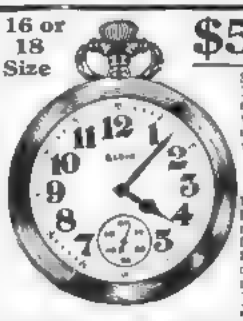

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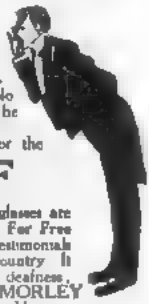

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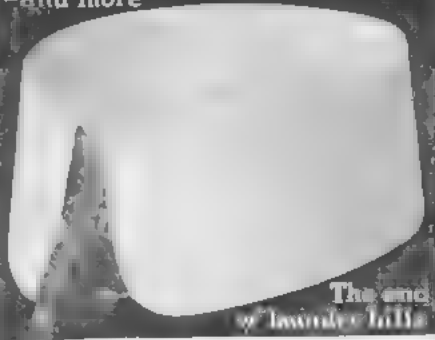

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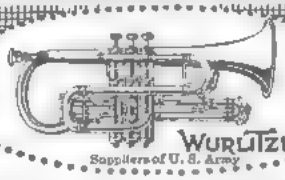

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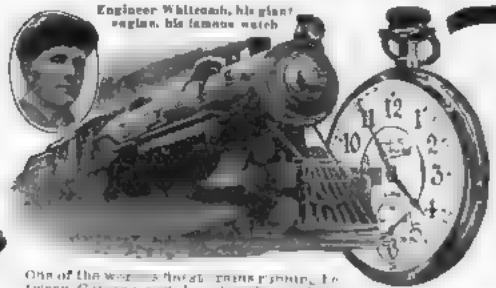

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In answering any advertisement on this page it is desirable that you mention RAILROAD MAN'S MAGAZINE

"I Got the Job!"

"I'm to be Manager of my Department starting Monday. The boss said he had been watching all the men. When he found I had been studying at home with the International Correspondence Schools he knew I had the right stuff in me—that I was bound to make good. Now we can move over to that house on Oakland Avenue and you can have a maid and take things easy. I tell you, Nell, taking that course with the I. C. S. was the best thing I ever did."

Spare-time study with the I. C. S. is winning promotions for thousands of men and bringing happiness to thousands of homes all over the world. In offices, shops, stores, mines, mills and on railroads, I. C. S. trained men are stepping up to big jobs, over the heads of older men, past those whose only qualification is long service.

There is a job ahead of *you* that some man is going to be picked for. The boss can't take chances. When he selects the one to hold it he is going to choose a trained man with sound, practical knowledge of the work. Get busy right now and put yourself in line for that promotion. You can do it in spare time in your own home through the International Correspondence Schools, just as nearly two million men have done in the last twenty-five years, just as more than 100,000 men are doing today.

The first step these men took was to mark and mail this coupon. Make *your* start the same way—and make it right now.

TEAR OUT HERE

INTERNATIONAL CORRESPONDENCE SCHOOLS
Box 5947, SCRANTON, PA.

Explain, without obligating me, how I can qualify for the position, or in the subject, *before* which I mark X

- ☐ LOCOMOTIVE ENGINEER
- ☐ Locomotive Fireman
- ☐ Traveling Engineer
- ☐ Traveling Fireman
- ☐ Air Brake Inspector
- ☐ Air Brake Repairman
- ☐ Round House Foreman
- ☐ Trainmen and Carmen
- ☐ Railway Conductor
- ☐ MECHANICAL ENGINEER
- ☐ Mechanical Draftsman
- ☐ Machine Shop Practice
- ☐ Boiler Maker or Designer
- ☐ Stationary Engineer
- ☐ Gas Engine Operating
- ☐ CIVIL ENGINEER
- ☐ Surveying and Mapping
- ☐ R. R. Constructing
- ☐ Bridge Engineer
- ☐ ARCHITECT
- ☐ Architectural Draftsman
- ☐ Contractor and Builder
- ☐ Structural Engineer
- ☐ Concrete Builder
- ☐ TRAFFIC MANAGER
- ☐ BOOKKEEPER
- ☐ R. R. Agency Accounting
- ☐ R. R. Gen'l Office Acc'ting
- ☐ Higher Accounting
- ☐ Stenographer and Typist
- ☐ Mathematics
- ☐ SALESMANSHIP
- ☐ ADVERTISING
- ☐ Railway Mail Clerk
- ☐ CIVIL SERVICE
- ☐ ELECTRICAL ENGINEER
- ☐ Electrician
- ☐ Electric Wiring
- ☐ Electric Lighting
- ☐ Electric Railways
- ☐ Telegraph Engineer
- ☐ Telephone Work
- ☐ MINE FOREMAN OR ENG'R
- ☐ Metallurgist or Prospector
- ☐ CHEMIST
- ☐ AUTOMOBILE OPERATING
- ☐ Auto. Repairing
- ☐ Good English
- ☐ AGRICULTURE
- ☐ Poultry Raising
- ☐ Spanish
- ☐ German
- ☐ French
- ☐ Italian

Name _____

Occupation & Employer _____

Street and No. _____

City _____ State _____

ANY WATCH YOU WANT on CREDIT

1917 Models

WALTHAM
HAMILTON
ELGIN, MILLER
Illinois, Howard

Sent on 30 Days Free Trial

No Money Down

Express Prepaid in Advance by Me

You take no chances with me. I am "Square Deal" Miller and I trust the people. That is why I am doing the greatest Credit Watch, Diamond and Jewelry business in the country. Choose any watch you want any one of the 21 leading makes of watches. Have any one I have it for you. No money Down. Express Prepaid. **A full month to carry it in your pocket** and the easiest of long Time Payments. Test at the test that tells. All these watches **GUARANTEED 25 YEARS**

I Smash the Terms

No References Demanded

My terms are made to suit you. You get all the credit, with no red tape, notes or collectors. All unnecessary costs left out.

An "Open Charge" Account

the same kind of credit you get from your grocer. No matter where you live or what your income is, you can now own the finest watch, a beautiful diamond or any rare jewelry and never miss the money.

Costly Catalog FREE

Send me your name and address and I can mail you, Free and postpaid, the most beautiful catalog of its kind ever printed. I want you to have this book. It is free. It illustrates all makes of valuable **Watches, Elegant Genuine Diamonds,** and a vast assortment of **Beautiful Jewelry,** all on the easiest and most liberal terms.

Square Deal MILLER
PRES.
868 Miller Bldg., Detroit, Mich.

BE THRIFTY
BUY A DIAMOND
PAY MONTHLY

MONEY REFUNDED
IF YOU CAN BUY
CHEAPER
FOR CASH.

Fine Diamonds
Our diamonds are all perfect cut and of latest, white in color and lots of fire.

Fine Diamonds
You cannot buy by mail better diamonds at any price than we are selling on credit.

FREE CATALOG COUPON

SQUARE DEAL MILLER, Pres.
868 Miller Bldg., Detroit, Mich.
Please send me your 1917 Catalog and explain fully your 30 Day Trial Plan and Easy Terms

Name .....

Address .....

Driver Agents Wanted

Five Pass., 34.7 H. P. Show and demonstrate the Bush Car. Pay for 32 x 3½ Tires. Fit out of your commission on sales. Our agents are making money. Shipments are prompt. Bush Cars guaranteed or money back. Write at once for my 48-page catalog and all particulars.

114-inch Wheelbase
Delco Ignition. Elect. Stg. & Ltg.

Address J. H. Bush, Pres. Dept. 20.

BUSH MOTOR COMPANY, Bush Temple, Chicago, Ill.

Mailing Cards *vs.* Classified Advertising

It would cost more than $11,500 to send a post-card to the more-than-a-million homes in which "The Munsey Magazines" are read every month. Advertisers who want to cover the same ground for $18.00 are using this short cut:

	Line Rate
MUNSEY'S MAGAZINE	$2 00
THE ARGOSY	1 30
RAILROAD MAN'S MAGAZINE	.80
ALL-STORY WEEKLY	.75
	$4.85

Special combination rate $4 64 per line Less 3 per cent cash discount

MINIMUM SPACE ACCEPTED, FOUR LINES

CONTRACT DISCOUNTS.—In addition to a 3% discount for cash, we allow an additional discount of 5% on three consecutive insertions and a 10% discount on six consecutive insertions. These discounts to be deducted from the third and sixth insertions.

WRITE FOR THIS BOOKLET

"A New Force in Business," that gives full particulars about the effectiveness of Classified Advertising in "The Munsey Magazines"

The Frank A. Munsey Company

8 West Fortieth Street, New York

Machine Gun Squad of the Fifth Massachusetts Guarding the Border at El Paso. Look for the Famous Muslin Sack.

On the Firing Line

That's where you'll always find "Bull" Durham. Americans who "*roll their own*" are always ready to "*hold their own.*" That's why "Bull" Durham has been the regular smoke of the U. S. Army and Navy for three generations.

A Suggestion to Pipe Smokers

Just try mixing "Bull" Durham with your favorite pipe tobacco.— It's like sugar in your coffee

"BULL" DURHAM

The "Makings" of a Nation

You can make for yourself, with your own hands, the mildest, most fragrant, most enjoyable cigarettes in the world —and the most economical. Machines can't imitate it. The only way to get that freshness, that flavor, that lasting satisfaction—is to **"roll your own"** with good old "Bull" Durham.

Guaranteed by The American Tobacco Co.

RK

Our 21 Jewel SMASHES PRICES

Look!

- 21 Ruby and Sapphire Jewels—
- Adjusted to the second—
- Adjusted to temperature—
- Adjusted to isochronism—
- Adjusted to positions—
- 25-year gold strata case—
- Genuine Montgomery Railroad Dial—
- New Ideas in Thin Cases.

Only $2.50 A Month

And all of this for $2.50—only $2.50 per month—a great reduction in watch prices—direct to you—positively the exact prices the wholesale dealer would have to pay. Think of the high-grade, guaranteed watch we offer here at such a remarkable price. And, if you wish, you may pay this price at the rate of $2.50 a month. Indeed, the days of exorbitant watch prices have passed.

See It First

You don't pay a cent to anybody until you see the watch. You don't buy a Burlington Watch without seeing it. Look at the splendid beauty of the watch itself. Thin model, handsomely shaped—aristocratic in every line. Then look at the works! There you will see the masterpiece of the watch makers' skill. A perfect timepiece adjusted to positions, temperature and isochronism.

Every fighting vessel in the U. S. Navy has the Burlington Watch aboard. Many have over 300 Burlingtons—a few over 200. This includes every torpedo boat—every submarine as well as the big Dreadnaughts.

Burlington Watch Co.
19th Street and Marshall Blvd.
Dept. B109 Chicago, Ill.

Please send me (without obligation and prepaid) your free book on watches with full explanation of your cash or $2.50 a month offer on the Burlington Watch.

Name.....

Address.....

Send Your Name on This Free Coupon

Get the Burlington Watch Book by sending this coupon now. You will know a lot more about watch buying when you read it. You will be able to "steer clear" of the over-priced watches which are no better. Send the coupon today for the watch book and our offer.

Burlington Watch Co.
19th St. & Marshall Blvd., Dept. B109, Chicago, Ill.

RL

Chesterfield

CIGARETTES

of IMPORTED *and* DOMESTIC *tobaccos — Blended*

Mild? Sure!

—yet they "Satisfy"

Here's a cigarette, Chesterfield, that is mild, *yes.* But they do something never before done by any other *mild* cigarette—they *let you know you are smoking*—they "*Satisfy*"! You'll know what "*Satisfy*" means when you light your first Chesterfield.

Liggett & Myers Tobacco Co.

20 *for* 10¢

1707 BC

Grape-Nuts

IS KNOWN THE WORLD OVER FOR ITS WONDERFUL FLAVOR AND STURDY STRENGTH-BUILDING QUALITIES

EVERY TABLE SHOULD HAVE ITS DAILY RATION OF Grape-Nuts FOOD

"THERE'S A REASON"

THE MUNSEY PRESS, NEW YORK